Attachment 3: Work Plan

Attachment 3 consists of the following:

- ✓ **Work Plan**

The following Work Plan summarizes the projects comprising the Mokelumne/Amador/Calaveras Region's Integrated Regional Water Management (IRWM) Implementation Grant Proposal, and all tasks necessary to complete each project presented in this Proposal.

- ✓ **Supporting Documentation**

The following documents have been appended to this Attachment to provide additional information regarding the projects discussed herein:

- West Point Water System Distribution System Rehabilitation Improvement Plans (Calaveras County Water District [CCWD], November 2010)
- Letter from Domenichelli and Associates, Inc. documenting West Point Water Distribution System Project Readiness (October 2006)
- Letter from U.S. Department of Agriculture (USDA) to CCWD summarizing USDA Rural Development Funding Award (December, 2010)
- Resolution 2008-24, executed by CCWD Board of Directors authorizing General Manager to execute and implement funding agreement with USDA (CCWD, March 2008)
- Letter from Domenichelli and Associates, Inc. documenting West Point/Bummerville/Wilseyville Water Distribution System Code Deficiencies (July 2005)
- Letter from Senator Feinstein and Congressman Lungren supporting CCWD's application for financial assistance under the USDA Rural Development Funding Program (May 2005)
- Preliminary Engineering Report (CCWD, May 2005)
- Camanche Regional Water Treatment Plant Plans (East Bay Municipal Utilities District [EBMUD])
- Camanche South and North Shore Water Treatment Plants Evaluation (EBMUD, May 2003)

Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan Proposition 84 Implementation Grant Proposal

January 7, 2011

MOKELUMNE/AMADOR/CALAVERAS INTEGRATED REGIONAL WATER MANAGEMENT PLAN PROPOSITION 84 IMPLEMENTATION GRANT PROPOSAL

INTRODUCTION

The Upper Mokelumne River Watershed Authority (UMWRA), the approved Regional Water Management Group (RWMG) for the Mokelumne/Amador/Calaveras (MAC) Integrated Regional Water Management (IRWM) Planning Region, is submitting this Proposal for the Proposition (Prop) 84 IRWM Implementation Grant Program (Round 1) to request $3,069,634 to implement four projects. The projects include Amador Water Agency's (AWA's) Lake Camanche Tank Rehabilitation & Lateral Replacement Project, AWA's Amador Water System (AWS) Leak Detection & Repair Program, Calaveras County Water District's (CCWD's) West Point Water Main & Tank Replacement Project, and East Bay Municipal Utility District's (EBMUD's) Camanche Regional Water Treatment Plant - Phase 1 Project. These projects were identified by the MAC Region as projects that are ready for implementation and/or vital to meeting the Region's goals and objectives (as identified in the adopted 2006 MAC IRWM Plan) and the Prop 84 Program's Preferences as documented in the *Proposition 84 & Proposition 1E IRWM Guidelines* (August 2010).

UMRWA is a joint powers authority created in the year 2000 by six water agencies (Amador Water Agency, Calaveras County Water District, Calaveras Public Utility District, East Bay Municipal Utility District, Jackson Valley Irrigation District, and Alpine County Water Agency) and the counties of Alpine, Amador and Calaveras. UMWRA assumed the lead role for water resources planning in the MAC Region in 2008 and received DWR's approval as the Regional Water Management Group for the Mokelumne/Amador/Calaveras Region in 2009. UMRWA is responsible for administering and updating the MAC IRWM Plan and coordinating the implementation of projects included in the Plan.

The following sections of this Work Plan describe the goals and objectives of the MAC IRWM Plan, the purpose and need for the projects within context of those goals and objectives, and other pertinent information related to the formation and implementation of the Proposal.

Goals and Objectives

This Proposal includes a suite of four projects selected for implementation in the MAC Region to address critical water issues faced by two disadvantaged communities, reduce water losses, improve water supply reliability and improve the quality of potable water delivered in the region. Implementation of the four projects included herein will help the MAC Region meet its Water Supply Goal "… to improve regional water supply reliability, reduce dependence on imported water, promote water conservation…" and its Water Quality Goal "…to protect and improve water quality for beneficial uses…" (*Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan*, November 2006, pages 4-1 to 4-3). Additionally, two of the four projects contained herein will directly benefit the disadvantaged communities (DACs) of Lake Camanche Village and West Point, improving local water supply reliability and quality. The grant funding provided by the Prop 84 Implementation Grant Program is essential to the success of this Proposal as these projects (especially the two serving DACs) would not otherwise be implemented as the local communities cannot afford the higher rates required to otherwise fund these projects.

Therefore, receipt of the grant funding and successful implementation of the proposed projects would also allow the Region to obtain one of its Regional Communication and Cooperation Objectives, that of "Maintaining water and wastewater rates to remain within the socioeconomic means of the community" (MAC IRWM Plan, 2006, page 4-4). The means by which each project contributes to meeting the MAC IRWM Plan goals and objectives is as follows.

The Lake Camanche Tank Rehabilitation & Lateral Repair Project would rehabilitate existing leaking redwood storage tanks and polyethylene service laterals in the Lake Camanche Village by installing flexible geomembrane liners in five existing tanks and by replacing approximately one-third of the service laterals in the system with copper piping. The current system experiences significant water losses, requiring lowering of tank levels to reduce water waste and resulting in associated reductions in water storage. These reduced storage capacities have reduced the emergency availability of water during power failures, fire events and drought situations by approximately 13%. Lake Camanche Village is a DAC consisting of approximately 733 connections served by AWA. This project meets the MAC Region's Water Supply Goals of improving water supply reliability and promoting conservation, and its Water Supply Objectives of meeting 100% of urban water demands, optimizing surface water from the Mokelumne River, and providing a reliable supply of water to meet alternative water uses such as fire suppression.

AWA also operates the Amador Water System (AWS) which conveys water to the cities of Amador City, Ione, Jackson, Plymouth, Sutter Creek, and parts of unincorporated Amador County. Significant portions of the water conveyance system were constructed nearly sixty years ago. Due to leakage and pipe failure, these aged water conveyance pipelines are inefficient and wasteful. Funding is being sought under the Prop 84 IRWM Implementation Grant Program for the first phase of the AWS Leak Detection and Repair Program. During this initial phase, 18 "master meters" will be installed on key pipelines within the AWS to determine those with the most significant leakage (and thus the greatest need for repair or replacement) and to prepare a prioritized list of repair/replacement projects. Phase 2 of the project will consist of repairing and/or replacing the leaking water conveyance facilities. Implementation of this project meets the MAC Region's Water Supply Goals of improving water supply reliability and promoting conservation and one of the Region's Water Supply Objectives by implementing conservation plans and optimizing the use of existing surface water from the Mokelumne River.

The West Point Water Main & Tank Replacement Project will replace deteriorating water mains and a leaking redwood water storage tank currently serving the community of West Point. West Point is a DAC of approximately 560 connections served by Calaveras County Water District. Conditions of the West Point system are so deteriorated that CCWD estimates that about one-quarter of the treated water conveyed through the system is unaccounted for due to leaks. The water system is one of the oldest in the area, and is insufficient in terms of capacity to deliver fire flows and overall supply reliability. Implementation of the West Point project will provide immediate improvement in water savings, water pressure, capacity and

fire flow for the community. Like the Lake Camanche Tank Rehabilitation & Lateral Replacement Project, this project meets the MAC Region's Water Supply Goals of improving water supply reliability and promoting conservation and the Region's Water Supply Objectives of meeting 100% of urban water demands, optimizing surface water from the Calaveras River, and providing a reliable supply of water to meet alternative water uses such as fire suppression.

The Camanche Regional Water Treatment Plant Project will address the needs of three separate water system purveyors: Amador Water Agency, Calaveras County Water District and East Bay Municipal Utility District. The project consists of a 0.5 million gallon per day (MGD) membrane filtration water treatment plant (WTP) at the Camanche South Shore Recreation Area (CASS), a new raw water pipeline to provide raw water from the Mokelumne Aqueducts to the new treatment plant (called the Mokelumne Aqueduct to CSS WTP pipeline), and a new cross-Camanche Reservoir treated water pipeline from the CASS WTP to the Camanche North Shore Recreation Area (CANS) to provide treated water. Funding is being sought under the Prop 84 IRWM Implementation Grant Program to construct Phase 1 of the overall Camanche Regional Water Treatment Plant Project, the raw water pipeline connecting the Mokelumne Aqueducts to the new treatment plant. Until all project components are constructed, this pipeline will deliver an improved raw water supply source to the existing Camanche WTP, reducing bacteria and turbidity loading to the older, existing water treatment plant. This will, in turn, decrease the number of times the treated water quality violates current Surface Water Treatment Rules and generates taste and odor concerns, and will improve potable water quality and supply reliability. Phase 1 of this project meets two of the Region's Water Quality Objectives of meeting or exceeding all applicable water quality regulatory standards and urban water quality targets established by stakeholders. When fully implemented, the Project will help meet both the Region's Water Supply Goals and Water Quality Goals.

Purpose and Need

The purpose of this Proposal is to obtain funding to implement the four projects previously summarized in order to provide multiple benefits to the MAC Region as a whole, agencies and entities located within the Region, and cities and communities (including the DACs of Lake Camanche Village and West Point) within the Region. There is a great need for these projects as the water infrastructure in AWA's Lake Camanche Village, Amador Water System (AWS), EBMUD's Camanche service area, and CCWD's water systems are aged and deteriorating, contributing to significant water losses, poor water supply reliability, and deteriorating water quality. And just as importantly, there is a great need for the grant funding provided by the Prop 84 Implementation Grant Program in that these projects (especially the two serving DACs) could not otherwise be implemented as the local communities cannot sustain the rate increase that would be required to otherwise fund these projects.

Goals and objectives for water resources management were developed and documented in Section 4 of the adopted 2006 *Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan* (MAC Plan). These goals and objectives were originally developed through a series of workshops conducted to outline, develop, and formalize the goals and to create measurable objectives to provide a basis for decision-making. Considered in the development of the regional priorities were identification of regional needs and issues, Statewide Priorities, and consideration of State Program Preferences. Based on these regional needs, issues and priorities, the following regional overall goals were developed:

Overall Goals:

Goal 1: Develop a comprehensive IRWMP for the Mokelumne/Amador/Calaveras area that incorporates regional water supply, water quality, flood control and environmental protection and enhancement objectives consistent with those of Proposition 50, Chapter 8 (Prop. 50 Chap. 8).

Goal 2: Improve and maximize coordination of individual water district, agency, and city plans, programs, and projects for mutual benefit and optimal regional gain.

Goal 3: Identify, develop, and implement collaborative plans, programs, and projects that may be beyond the scope or capability of a single entity, but which would be of mutual benefit if implemented among multiple parties.

Goal 4: Facilitate regional water management efforts that include multiple water supply, water quality, flood control, and environmental protection and enhancement objectives.

Goal 5: Foster coordination, collaboration, and communication between entities and interested stakeholders to achieve greater efficiencies, enhance public services, and build public support for vital projects,

Goal 6: To realize regional water management objectives at the least cost through mutual cooperation, elimination of redundancy and enhanced competitiveness for State and Federal grant funding.

For these overall goals, several region-specific goals were identified, and measurable objectives established for each specific goal. The specific goals and objectives are discussed below. This Proposal is contributing to meeting Goals 2, 3, 5 and 6, as stated above. The Camanche Regional Water Treatment Plant Project, when fully implemented, will benefit EBMUD, AWA, and CCWD and require coordination among those agencies. This is one example of how a collaborative integrated project was identified, developed, and is now being implemented to the mutual benefit to multiple parties (satisfying Goal 3).

Water Supply Goal

The regional goal for water supply is *to improve regional water supply reliability, reduce dependence on imported water, promote water conservation, water reuse, and protect watershed communities from drought with a focus on interagency conjunctive use of regional water resources*. Measurable objectives established for this goal include:

1. Meeting 100% of urban and agricultural demand in wet to dry years, including the first year of water shortages.
2. Meeting 85% of urban and 75% of agricultural demands in second and subsequent years of water shortages.
3. Optimizing and sustaining the use of existing surface water entitlements from the Mokelumne and Calaveras Rivers.
4. Protecting existing water rights and county of origin protections.
5. Providing a variety of water supply sources to meet current demands.
6. Maximizing use of recycled water from wastewater treatment plant with an overall target reuse goal of 50% of plant effluent by 2020.
7. Optimizing the use of groundwater storage and conjunctive use options.
8. Implementing water conservation plans for both urban and agricultural uses.
9. Providing a variety of water supplies to support planned growth, anticipated increases in industrial and agricultural demand, and shifts in water supply availability resulting from climate changes.
10. Providing a reliable supply of water to meet alternative water uses such as fire suppression and municipal irrigation.

Flood Protection Goal

The regional goal for flood protection is *to ensure flood protection strategies are developed and implemented through a collaborative and watershed-wide approach and are designed to maximize opportunities for comprehensive management of water resources*. Measurable objectives for this goal include:

1. Developing outlines of regional projects and plans necessary to protect existing infrastructure from flooding and erosion from the 100-year event.
2. Working with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed.
3. Developing approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate.
4. Providing community benefits beyond flood protection, such as public access, open space, recreation, agricultural preservation, and economic development.

Water Quality Goal

The regional goal for water quality is *to protect and improve water quality for beneficial uses consistent with regional community interests and the RWQCB Basin Plan through planning and implementation in cooperation with local and state agencies and regional stakeholders*. Measurable objectives for this goal include:

1. Meeting or exceeding all applicable water quality regulatory standards.
2. Meeting or exceeding urban water quality targets established by stakeholders.

3. Delivering agricultural water to meet water quality guidelines established by stakeholders.
4. Meeting or exceeding recycled water quality targets established by stakeholders.
5. Aid in meeting Total Maximum Daily Loads established, or to be established, for the Mokelumne and Calaveras River watersheds.
6. Protecting surface waters from contamination and threat of contamination (including through SSOs and SSMPs).
7. Protecting groundwater basins from contamination and threat of contamination.
8. Managing existing land uses while preserving or enhancing environmental habitats.
9. Developing environmental water to meet water quality guidelines established by stakeholders.
10. Minimizing impacts from storm water through implementation of Best Management Practices or other detention projects.
11. Managing existing land uses for recycled water discharges and allowable water-based discharges.

Environmental Protection and Enhancement Goal

The environmental protection and enhancement goal is *to work with the community and environmental stewards to preserve the environmental health and well-being of the Mokelumne and Calaveras River watersheds by identifying opportunities to assess, restore and enhance natural resources of streams and watershed when developing water supply, water quality, and flood protection strategies*. Measurable objectives for this goal include:

1. Identifying opportunities to assess, protect, enhance, and/or restore natural resources when developing water management strategies.
2. Minimizing adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species, and archaeological sites when implementing strategies and projects.
3. Identifying opportunities for open spaces, trails and parks along creeks and other recreational projects in the watershed to be incorporated with water supply, water quality, or flood protection projects.
4. Projecting elements should maintain and, to the extent practicable, enhance the local environment and contribute to the long-term sustainability of agricultural, commercial, industrial, and urban land uses and activity within the basin.
5. Identifying opportunities to protect, enhance, or restore habitat to support Mokelumne (including Dry Creek, Sutter Creek and Jackson Creek) and Calaveras River watersheds in conjunction with water supply, water quality, or flood protection projects.

Regional Communication and Cooperation Goal

The regional communication and cooperation goal is *to develop a forum for regional communication, cooperation, and education, including models for partnerships and inter-basin cooperation, protocols for reducing inconsistencies in water management strategies between regional entities, and strategies for maintaining resource costs within the local socioeconomic environment*. The measurable objectives for this goal include:

1. Developing format for consensus decision-making by regional entities.
2. Creating prioritization strategy and protocols for integrated water management decision-making.
3. Fostering collaboration between regional entities to minimize and resolve potential conflicts.
4. Building relationships with State and Federal regulatory agencies and other water forums and agencies to facilitate permitting of water-related projects.
5. Opening and fostering lines of communications between regional and inter-regional entities to reduce inconsistencies in water management strategies and to maximize benefits from water-related projects.
6. Opening avenues of communication with general public and offer opportunities to provide feedback on the IRWM and water-related projects.
7. Identifying opportunities for public education about water supply, water quality, flood management, and environmental projection.
8. Maintaining water and wastewater rates to remain within the socioeconomic means of the community.

The implementation of this Proposal will contribute to fulfilling multiple goals and objectives included in the 2006 MAC Plan. The goals and objectives that each project contributes to are summarized in Table 1.

Table 1: Projects Contributions to Fulfilling Plan Goals & Objectives

	Goals & Objectives	Projects			
		Lake Camanche Tank Rehab & Lateral Replacement	Leak Detection & Repair - Amador Water System	West Point Water Main & Tank Replacement	Camanche Regional Water Treatment Plant – Phase 1
Water Supply	1. Meeting 100% of urban and agricultural demand in wet to dry years, including the first year of water shortages.	✓	✓	✓	✓
	2. Meeting 85% of urban and 75% of agricultural demands in second and subsequent years of water shortages.				
	3. Optimizing and sustaining the use of existing surface water entitlements from the Mokelumne and Calaveras Rivers.	✓	✓	✓	✓
	4. Protecting existing water rights and county of origin protections.				
	5. Providing a variety of water supply sources to meet current demands.				
	6. Maximizing use of recycled water from wastewater treatment plant with an overall target reuse goal of 50% of plant effluent by 2020.				
	7. Optimizing the use of groundwater storage and conjunctive use options.	✓			
	8. Implementing water conservation plans for both urban and agricultural uses.		✓		
	9. Providing a variety of water supplies to support planned growth, anticipated increases in industrial and agricultural demand, and shifts in water supply availability resulting from climate changes.		✓		✓
	10. Providing a reliable supply of water to meet alternative water uses such as fire suppression and municipal irrigation.	✓	✓	✓	
Flood Protection	1. Developing outlines of regional projects and plans necessary to protect existing infrastructure from flooding and erosion from the 100-year event.				
	2. Working with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed.				
	3. Developing approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate.				
	4. Providing community benefits beyond flood protection, such as public access, open space, recreation, agricultural preservation, and economic development.				
Water Quality	1. Meeting or exceeding all applicable water quality regulatory standards.	✓		✓	✓
	2. Meeting or exceeding urban water quality targets established by stakeholders.	✓		✓	✓
	3. Delivering agricultural water to meet water quality guidelines established by stakeholders.				
	4. Meeting or exceeding recycled water quality targets established by stakeholders.				
	5. Aid in meeting Total Maximum Daily Loads established, or to be established, for the Mokelumne and Calaveras River watersheds.				
	6. Protecting surface waters from contamination and threat of contamination (including through SSOs and SSMPs).				
	7. Protecting groundwater basins from contamination and threat of contamination.				
	8. Managing existing land uses while preserving or enhancing environmental habitats.				
	9. Developing environmental water to meet water quality guidelines established by stakeholders.				
	10. Minimizing impacts from storm water through implementation of Best Management Practices or other detention projects.				
	11. Managing existing land uses for recycled water discharges and allowable water-based discharges.				

	Goals & Objectives	Projects			
		Lake Camanche Tank Rehab & Lateral Replacement	**Leak Detection & Repair - Amador Water System**	**West Point Water Main & Tank Replacement**	**Camanche Regional Water Treatment Plant – Phase 1**
Environmental Protection & Enhancement	1. Identifying opportunities to assess, protect, enhance, and/or restore natural resources when developing water management strategies.				
	2. Minimizing adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species, and archaeological sites when implementing strategies and projects.				
	3. Identifying opportunities for open spaces, trails and parks along creeks and other recreational projects in the watershed to be incorporated with water supply, water quality, or flood protection projects.				
	4. Project elements should maintain and, to the extent practicable, enhance the local environment and contribute to the long-term sustainability of agricultural, commercial, industrial, and urban land uses and activity within the basin.				
	5. Identifying opportunities to protect, enhance, or restore habitat to support Mokelumne (including Dry Creek, Sutter Creek and Jackson Creek) and Calaveras River watersheds in conjunction with water supply, water quality, or flood protection projects.				
Regional Communication & Cooperation	1. Developing format for consensus decision-making by regional entities.				
	2. Creating prioritization strategy and protocols for integrated water management decision-making.				
	3. Fostering collaboration between regional entities to minimize and resolve potential conflicts.	✓	✓	✓	✓
	4. Building relationships with State and Federal regulatory agencies and other water forums and agencies to facilitate permitting of water-related projects.				
	5. Opening and fostering lines of communications between regional and inter-regional entities to reduce inconsistencies in water management strategies and to maximize benefits from water-related projects.				✓
	6. Opening avenues of communication with general public and offer opportunities to provide feedback on the IRWM and water-related projects.	✓	✓	✓	✓
	7. Identifying opportunities for public education about water supply, water quality, flood management, and environmental projection.				
	8. Maintaining water and wastewater rates to remain within the socioeconomic means of the community.	✓		✓	

Project List

Table 2 provides a brief description of each project included in this Proposal, the current status of the projects in terms of percent completion of design, and the associated implementing agencies.

Table 2: Project Summaries

Project	Abstract	Current Status (% Completion of Design)	Implementing Agency
Lake Camanche Tank Rehab & Lateral Replacement	Fabricate and install flexible geomembrane liners in five existing, leaking redwood storage tanks in the Lake Camanche Water Improvement District No. 7 (WID#7), as well as replace 200 of the polyethylene service laterals in the system.	5%	Amador Water Agency
Leak Detection & Repair – Amador Water System	Install a system of 18 "master meters" on key pipelines with the Amador Water System to determine which pipes experience the greatest water loss and require replacement or repair; prepare a prioritized list of repairs/replacements.	5%	Amador Water Agency
West Point Water Main & Tank Replacement	Replace 6,600-feet of CCWD's deteriorating water main and construct a new 50,000-gallon steel water storage tank to replace the leaking redwood water storage tank in West Point.	60%	Calaveras County Water District
Camanche Regional Water Treatment Plant, Phase 1	Phase 1 project to install 6,000 linear feet of 12-inch diameter HDPE pipeline from Mokelumne Aqueducts to existing Camanche water treatment plant, and ultimately to a new regional water treatment plant, once constructed. Overall project components (all phases) include a 0.5 MGD membrane filtration water treatment plant at Camanche South Shore Recreation Area (CASS), a new raw water pipeline (the Phase 1 project) and a new cross-Camanche Reservoir treated water pipeline from CASS water treatment plant to Camanche North Shore Recreation Area (CANS).	90%	East Bay Municipal Utility District

Integrated Elements of Projects

The primary method in which the four projects contained in this Proposal work synergistically is to improve water conservation and water reliability in the MAC Region. The projects contained herein represent, for the most part, a portfolio of projects that incrementally improve water reliability and reduce water waste in the Region. Taken as a whole, these projects help the State to meet hydrologic region-specific urban water use reduction targets. They also reduce water losses in systems extracting, treating, storing and distributing Mokelumne River water providing the overall benefit of reducing dependence on the Mokelumne River upstream of the Delta and ensuring that all water is utilized beneficially. Reducing dependence on the Mokelumne River for potable water consumption, in turn, reduces strain on the river ecosystems and water-related conflicts in the region.

Regional Map

The MAC IRWM Region became a DWR-approved region during the 2009 Region Acceptance Process. The four projects included in this Proposal are entirely within the MAC Region's boundaries. The Region incorporates all of Amador County and sizeable portions of Calaveras and Alpine Counties. Included within the Region's boundary are cities, water and irrigation districts, watershed management areas, portions of groundwater basins, disadvantaged communities, and large tracts of federally-owned lands. Figure 1 shows the MAC IRWM region and Figure 2 shows water-related infrastructure in the region.

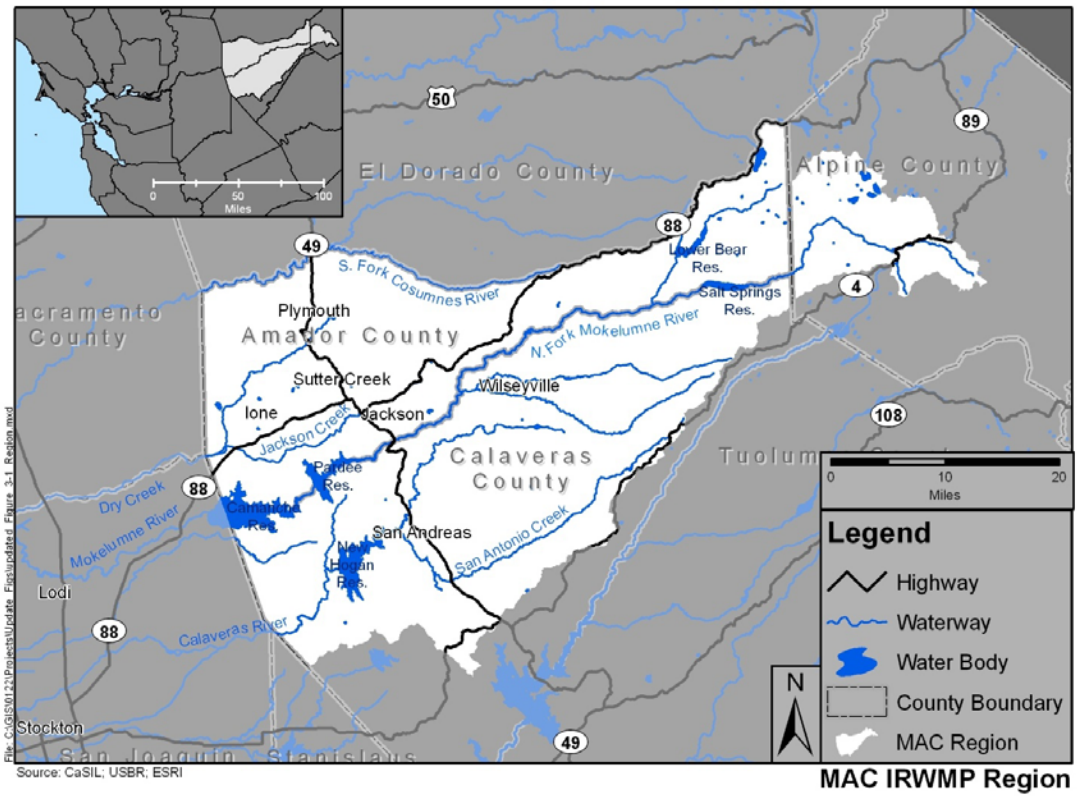

Figure 1: MAC IRWMP Region

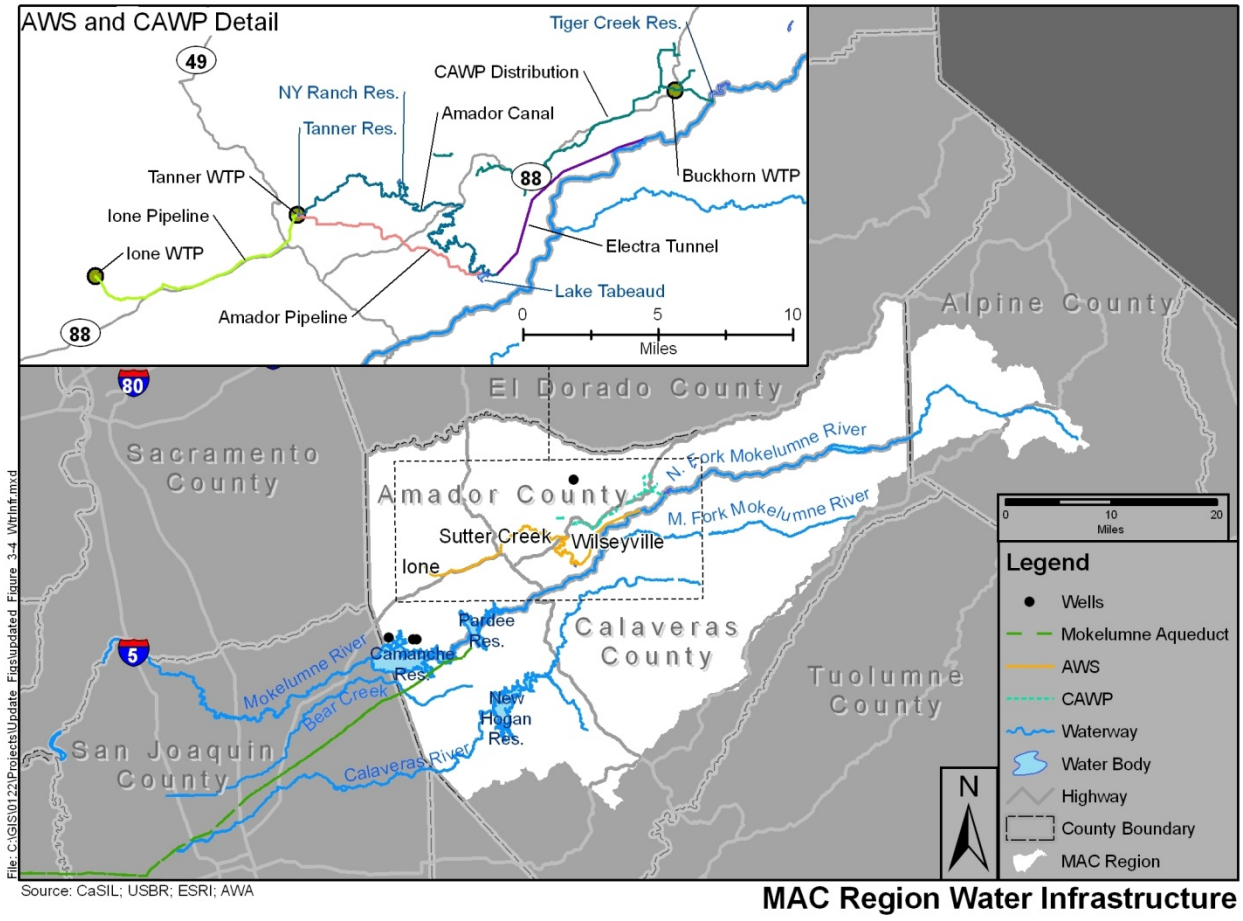

Figure 2: MAC Region Infrastructure

The MAC IRWM region is home to approximately 130,000 people and contains several Disadvantaged Communities (DACs). Based on the 2000 U.S. Census Median Household Income (MHI) data, the cities of Jackson (Amador County) and Plymouth (Amador County) are DACs, as are the communities of Mokelumne Hill (Calaveras County), Rail Road Flat (Calaveras County), San Andreas (Calaveras County), and West Point (Calaveras County). AWA performed an income survey in 2005 in the Camanche region and identified the North Shore Lake Camanche Unit 6 & Recreation Areas area as a disadvantaged community as well. CCWD also performed an income survey and found the MHI data for West Point to be much lower than the 2000 Census data. Additionally, the MAC Region also contains Amador City (Amador County) and Mountain Ranch (Calaveras County), communities that do not qualify as a "disadvantaged community" by the MHI indicator, but do have Median Family Incomes (MFIs) that are well below 80% of the State MFI. In general, the disadvantaged communities in the MAC Region were smaller than those elsewhere in the State and have a higher median age. This indicates that many of the households in the MAC IRWMP region are maintained by older persons, most likely retired and living on fixed incomes. Figure 3 shows the location of the DACs in the MAC Region.

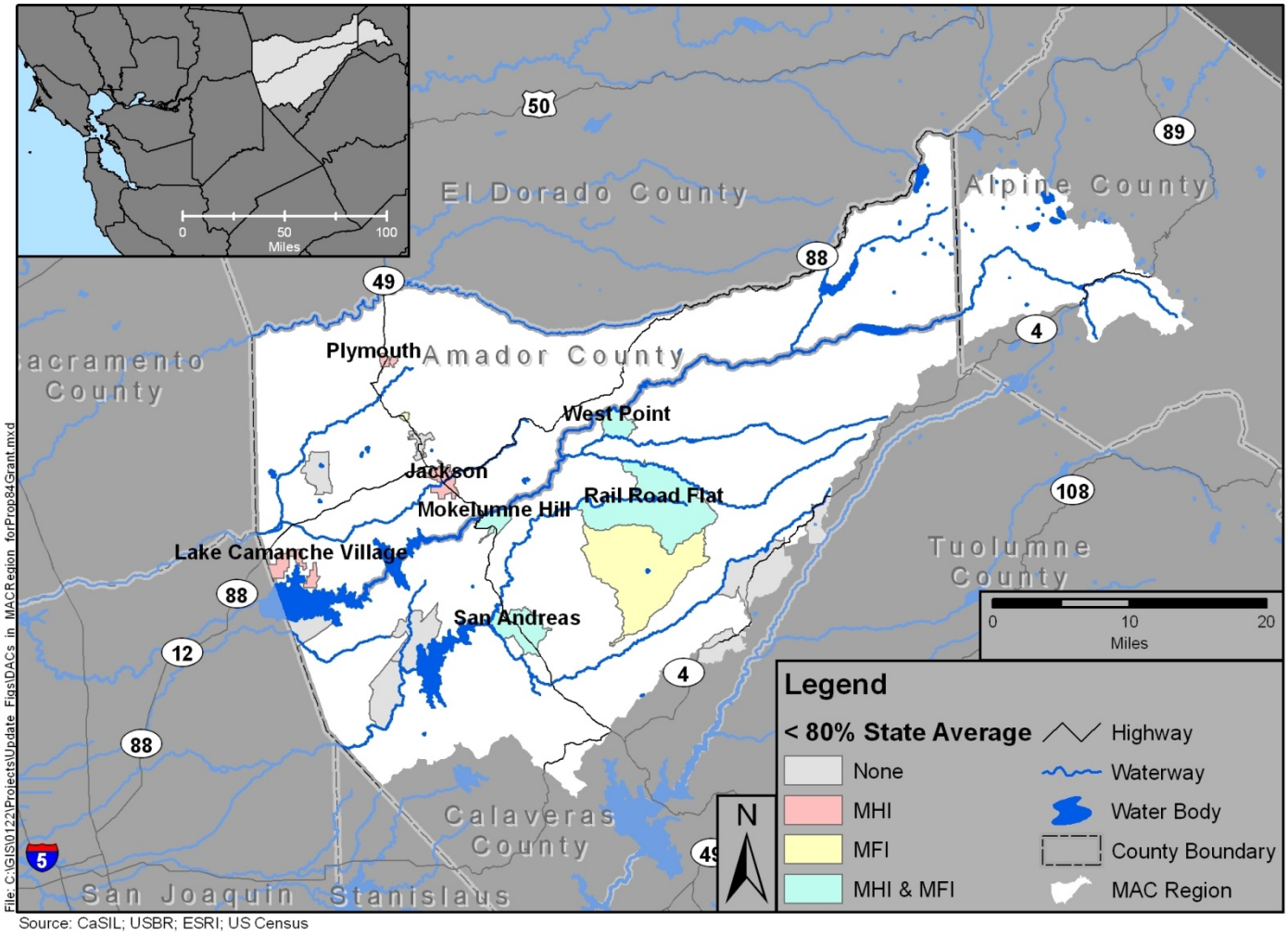

Figure 3: Disadvantaged Communities

West Point is also the home of the Calaveras Band of Mi-Wuk Indians. The Calaveras Band of Mi-Wuk Indians (also spelled Miwuk, Miwok, or Me-Wuk) is part of the Plains and Sierra Miwok subgroup, one of four linguistically and culturally related groups of Native Americans native to Northern California. The Plains and Sierra Miwok subgroup are located in areas along the western slope and foothills of the Sierra Nevada, the Sacramento Valley, San Joaquin Valley and the Sacramento-San Joaquin Delta. As of the of 2000 Census, there were 746 people residing in the West Point CDP. Of this number, 61 (or 8.18%) were Native Americans of the Calaveras Band of Mi-Wuks.

The United States Bureau of Indian Affairs officially recognizes eleven tribes of Mi-Wuks in California. There are an additional five non-federally recognized tribes, including the Calaveras Band of Mi-Wuk Indians. The entire town of West Point is registered as California Historical Landmark #268 and is the site of the West Point Roundhouse and the West Point Miwuk Big Time Powwow. The West Point Tribal Office provides support to the Native American community, including rehabilitation services, vocational rehabilitation, and employment assistance.

Two of the four projects contained in this Proposal will directly benefit two DACs in the MAC Region. The locations of all proposed projects are shown in Figure 4; the two projects directly benefiting the DACs are the Lake Camanche Tank Rehabilitation & Lateral Replacement Project and the West Point Water Main & Tank Replacement Project. In addition, the remaining two projects (the Amador Water System Leak Detection & Repair Program and the Camanche Regional Water Treatment Plant Phase 1 Project) indirectly benefit local DACs.

The four project locations are also the approximate locations of associated monitoring activities for the projects (e.g. the location where the Project Performance Monitoring Plan will be implemented). Detailed maps are shown in each project-specific work plan, below.

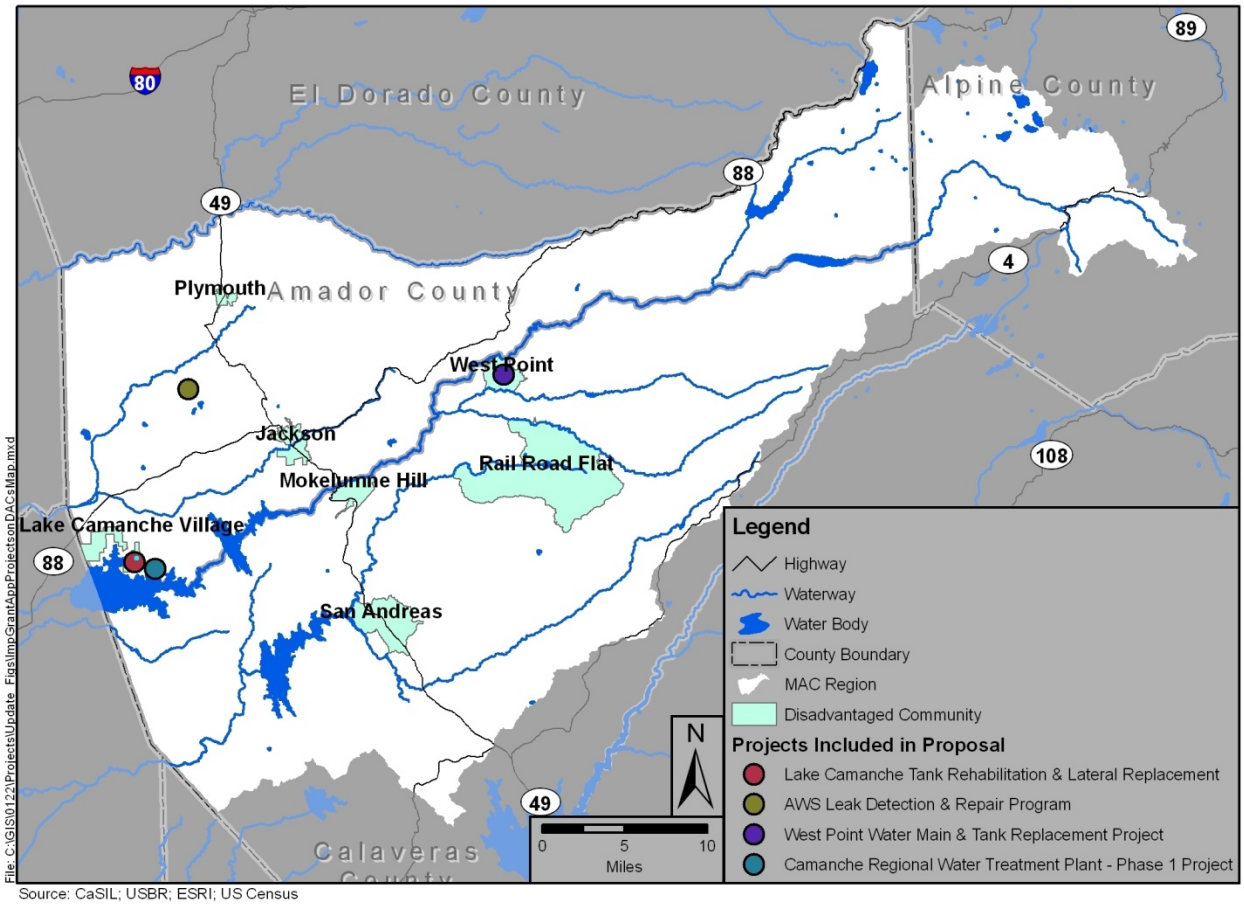

Figure 4: Project Locations

Completed Work

Work on projects contained in this Proposal is in varying stages of completion. Work on two of the projects have been significantly completed (the West Point Water Main & Tank Replacement Project is at 60% design and the Camanche Regional Water Treatment Plant – Phase 1 Project is at 90% design), while the others are in lesser stages of development. However, in the case of the two AWA projects, the projects are ministerial in nature and therefore work can advance quickly using standard specifications and drawings. Specifically, work that has been completed or is expected to be completed prior to June 1, 2011 (the assumed grant award date) is summarized below for each project.

Lake Camanche Tank Rehabilitation & Lateral Replacement Project

Prior to June 1, 2011, AWA will have prepared project-specific information for this Proposal leading to a conceptual project design, and will have coordinated with and participated in UMRWA for the purposes of applying for the Prop 84 Implementation Grant to construct the project.

Amador Water System Leak Detection & Repair Program

AWA has prepared a conceptual design of the proposed project, resulting in in-kind services for the preparation of this Proposal. This information has been used in support of development of this Prop 84 Implementation Grant application and has been completed prior to the assumed grant award date of June 1, 2011.

West Point Water Main & Tank Replacement Project

The West Point Water Main & Tank Replacement Project was first analyzed as part of a system feasibility report funded by Proposition 204 Department of Water Resources (DWR) Grant Program in 2002. The Project was further detailed in the *West Point Master Plan*, completed in 2005. An Initial Study/Mitigated Negative Declaration (IS/MND) was completed for the project in August of 2007, and a Notice of Determination filed in October of 2007. CCWD has also completed 60% design of the project in 2009. These documents and other studies completed for this project, as discussed in the following section 'Existing Data and Studies', have also been developed.

Camanche Regional Water Treatment Plant – Phase 1 Project

The 30% project design for the Camanche Regional Water Treatment Plant Project was completed in July of 2001 and consisted of designs for the regional water treatment plant, the raw water pipeline from the Mokelumne Aqueducts to the new water treatment plant, and a cross-Camanche potable water distribution pipeline. A draft Mitigated Negative Declaration (MND) was prepared following the 30% design completion, and the final MND was adopted and submitted to State Clearinghouse in September of 2001. In May of 2003, the *Camanche South and North Shore Water Treatment Plants Evaluation* was completed, comparing alternative treatment plant technologies and pipeline alignments and costs. The 90% design of the Mokelumne Aqueduct to CSS Water Treatment Plant (WTP) pipeline (the Phase 1 project) completed following report in 2003.

Existing Data and Studies

The following is a list of studies and reports that have been completed on the projects contained in this proposal.

Studies in support of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project and the Amador Water System Leak Detection & Repair Program

- *Water Conservation Plan* (RMC Water & Environment, 2010) – This document summarizes current water conservation programs being implemented by Amador Water Agency (AWA), and outlines a recommended program for demand management measure (DMM) implementation to levels of compliance at stated in the California Urban Water Conservation Council's Memorandum of Understanding. Section 3.2 of the Plan describes DMM 3, system water audits, leak detection and repair, and describes a program recommended for implementation of the DMM. The Amador Water System Leak Detection & Repair Program is consistent with the recommended DMM3 program as described in the Conservation Plan.
- *BMP Cost and Savings Study (*California Urban Water Conservation Council, 2004) - This study confirmed that meters combined with commodity based water rates (or volumetric pricing on amount used by the customer) are effective in driving consumer behavior to improved water management by reducing their water consumption. The CUWCC estimated 20% water savings associated with installing meters. This report also discusses system audits and leak detection, and concludes that the magnitude of savings varies depending on the system and system leaks.
- 2008 Urban Drought Assistance Grant Application – In July of 2008, AWA submitted a grant application to the California Department of Water Resources (DWR) 2008 Urban Drought Assistance Grant Program for the Lake Camanche Tank Rehabilitation and Lateral Replacement Project. Information compiled for that application was used in support of the information presented in this Proposal.

Studies in support of the West Point Water Main & Tank Replacement Project

- *West Point Water System Master Plan* (HDR, 2005) – This document was a system-wide evaluation of the West Point water system to identify recommended system improvements and scheduling of those improvements in support of a financing plan for system upgrades. The Bummerville tank replacement project is discussed on page 24 of the report, and the main replacements are discussed on page 25 of the report.
- *West Point Preliminary Engineering Report* (CCWD, 2005) – This document is the initial study evaluating the West Point and Wilseyville Water Distribution System improvements (including the Bummerville tank and West Point main replacements) based on the November 2002 Predesign Submittal completed by HDR. This document found that, generally speaking, the repair projects that were reviewed would have no impacts or less than a significant impact on most of the topical areas included in the environmental checklist, and would have beneficial impacts to the rural communities that have inadequate water storage, delivery systems and fire fighting capabilities (page 3).

- *Calaveras County Water District West Point Wilseyville/Bummerville System Improvements Final Feasibility Report* (HDR, 2004) – This report was prepared to examine the feasibility of facility improvements to better supply the needs of West Point and to bring the existing system up to current standards and codes. The study concluded that the recommended project should proceed forward and that improving the supply and storage capacity of the system to help protect from potentially devastating fire would make no sense without upgrading the distribution system to deliver the flows (page ES-8).
- *Calaveras County Local Hazard Mitigation Plan*, Figure 3.11 – Calaveras County Historic Fires and Wildlife Hazard Areas (AMEC, 2010) – The map attached was compiled based on data from the Calaveras County, California Department of Forestry & Fire Protection, and shows that the West Point community is in a very high Fire Hazard Severity Zone.
- *Initial Study and Mitigated Negative Declaration, West Point Service Area Water System Improvements* (K.S. Dunbar & Associates, Inc., 2007) – This IS/MND conducted the environmental impact evaluation of the proposed West Point system improvements as required under the California Environmental Quality Act (CEQA). In general, the document determined that all potential environmental impacts could be mitigated, and provided recommended mitigation measures to be implemented at the time of project construction.
- *West Point/Wilseyville Domestic Water System Master Plan Supplement* (CMA, 1998) – This plan supplement was prepared to update a 1996 Master Plan for the West Point/Wilseyville water system. The plan evaluated the system and provided specific recommendations, cost estimates and a capital improvement plan to bring the system into compliance with then-current water industry standards. Bummerville storage requirements were documented in this plan as were the minimum recommended requirements for the West Point distribution system.
- *Plans for Construction, West Point Water System Distribution System Rehabilitation Improvement Plans* (CCWD, 2010) – These are the 60% design plans for the proposed project.

Studies in support of the Camanche Regional Water Treatment Plant Project

- *Camanche Water Treatment Plant Replacement Project Mitigated Negative Declaration*, State Clearinghouse Number 2001072084 (July 2001 Draft; September 2001 Final) – This MND conducted the environmental impact evaluation of the proposed Camanche Regional Water Treatment Plant project as required under the California Environmental Quality Act (CEQA). Evaluated under this document were the 0.5 MGD filtration plant, the raw water pipeline connecting the Mokelumne Aqueducts to the new Camanche Regional Water Treatment Plant, and a cross-Camanche distribution pipeline. In general, the document determined that all potential environmental impacts could be mitigated, and provided recommended mitigation measures to be implemented at the time of project construction.

- *Camanche South and North Shore Water Treatment Plant Evaluation* Report (May, 2003) – This report was prepared to identify the best alternative to provide reliable water treatment for Camanche North Shore (CANS) and Camanche South Shore (CASS) such that the treated water meets future water quality regulations at the lowest life cycle cost. Alternatives evaluated in the report including using both Camanche Reservoir and the Mokelumne Aqueducts as raw water supply, and three treatment alternatives for CASS. Each alternative was evaluated based on cost, reliability, ability to meet current and anticipated future water treatment regulations, ability to meet current and future environmental regulations, and flexibility/options for expansion. The recommended treatment alternative is that proposed herein; use of raw water from the Mokelumne Aqueduct and treatment via ultrafiltration.
- 90% Design (May 2002) – These drawings show the 12-inch diameter HPDE water pipeline in plan and profile connecting the Mokelumne Aqueducts to the Camanche South Shore Water Treatment Plant.

Project Map

Figure 4, above, shows the location of the projects contained in this Proposal.

Project Timing and Phasing

Two of the projects included in the Proposal are phased projects; these are the Amador Water System (AWS) Leak Detection & Repair Program and the Camanche Regional Water Treatment Plant (WTP) Phase 1 Project. The phasing of these projects is discussed as follows. The West Point Water Main & Tank Replacement Project is also part of a larger program to upgrade and replace inadequate infrastructure in the West Point area.

The first phase of the AWS Leak Detection & Repair Program (for which funding is being sought) is the installation of 18 'master meters' on mains within the AWS system and evaluation of the system via these new meters to identify areas with significant leaks. Data from the meters and the subsequent evaluation will then be used to formulate a prioritized list of repair and replacement projects for future implementation. Implementation of the repair/replacement projects would be conducted as subsequent phases of the overall program; as this phase of the project is dependent on the first phase, the number and types of repairs/replacements that may be required is not known. However, identification of the leaks and development of the prioritized project list will allow AWA to plan for future project implementation and to incorporate the anticipated costs into its regular finance planning. Additionally, the study results can be used in support of future grant applications in support of the program financing.

The first phase of the Camanche Regional Water Treatment Plant Project (for which funding is being sought) is the Mokelumne Aqueduct to CASS WTP pipeline. This pipeline will, following completion of the first phase of the project, connect the aqueducts to the existing water treatment plant at the Camanche South Shore Recreation Area. The project, in and of itself, will reduce the bacterial and turbidity loading on the existing water treatment plant, improving the plant's performance, reducing the number of violation notices that have been

occurring at the aging treatment plant, and providing a better-quality water to local users. Long- term, after subsequent phases of the treatment plant have been constructed, the Mokelumne Aqueduct Supply to CSS WTP pipeline will connect the aqueducts to the new regional water treatment plant. Following completion of the overall project (including construction of the new regional water treatment plant and the cross-Camanche potable water distribution pipeline), high-quality treated water will be provided to the Camanche North Shore Recreation Area, Burson, Wallace, and other near-by communities in addition to those currently served by the existing treatment plant.

Prop 84 Grant Proposal Implementation

For implementation of this Proposal and to facilitate grant funding management, UMRWA, as the Proposition 84 Implementation Grant Manager, will enter into written agreements with Project Sponsors (AWA, CCWD and EBMUD). These agreements will describe project-level communication and coordination protocols, reporting procedures, and grant obligations between UMRWA and Project Sponsors (including applicable requirements and standard conditions as specified in the Grant Agreement between DWR and UMRWA). UMRWA and the Project Sponsors will draft a mutually acceptable model agreement which will serve as the basis for the three anticipated individual UMRWA – Project Sponsor agreements. Those agreements will be effective upon approval by the UMRWA Board of Directors and the governing boards of the three Project Sponsors and on execution of the Funding Agreement with DWR. The UMRWA – Project Sponsor agreements are expected to address the following matters.

Communication and Coordination Protocols

1. Designate by name each Project Manager
2. Establish quarterly conference call coordination meeting schedule (Grantee and Project Managers)
3. Prescribe project invoicing and accounting procedures and standards
4. Establish procedures to ensure Project Sponsors timely notify UMRWA Contract Manager when:

   (a) Events or proposed changes could affect the scope, budget, or work performed under the Grant Agreement. [No substantial change in project scope will be undertaken until written notice of the proposed change has been provided to State and State has given written approval for such change.]

   (b) Any public or media event publicizing the accomplishments and/or results of a project and provide the opportunity for attendance and participation by State's representatives. [Grantee must notify State at least fourteen (14) calendar days prior to the event.]

   (c) Completion of work on a project.

   (d) Final inspection of a project by a Registered Civil Engineer, as determined and required by State, and in accordance with Standard Condition D-14, and provide State

the opportunity to participate in the inspection. (Grantee must notify State at least fourteen (14) calendar days prior to the final inspection.)

Reporting Procedures

Specify report due dates, format and content requirements, and any other report specifications as required by the UMRWA – DWR grant agreement for the following.

1. Quarterly Reports
2. Project Completion Report
3. Post Performance Report

Project Sponsor Obligations

Specify Project Sponsor obligations and responsibilities to ensure that UMRWA (as Grantee) and individual Project Sponsors comply with the terms and conditions of the UMRWA – DWR grant agreement. These obligations and responsibilities will include the following.

1. Require Project Sponsors, for their respective project or projects, to comply with all applicable terms and conditions of the UMRWA – DWR Grant Agreement.
2. Require Project Sponsors, for work that is subject to the California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA), to fulfill all associated compliance requirements.
3. Require Project Sponsors to: commence and continue operation of their respective projects, and ensure projects to be operated in an efficient and economical manner; ensure all repairs, renewals, and replacements necessary to the efficient operation of the projects are provided; and ensure projects are to be maintained in as good and efficient condition as upon its construction, ordinary and reasonable wear and depreciation excepted.
4. Require Project Sponsors to ensure that all operations and maintenance costs of the facilities and structures are assumed by the Project Sponsors for their respective projects.
5. Require Project Sponsors to be responsible for ensuring any and all permits, licenses, and approvals required for performing their obligations under the UMRWA - DWR Grant Agreement are obtained.
6. Require Project Sponsors to comply with all applicable California Labor Code requirements, including prevailing wage provisions. Project Sponsors must, independently or through a third party, adopt and enforce a Department of Industrial Relations-certified Labor Compliance Program (LCP) which meets the requirements of Labor Code section 1771.5.
7. Require Project Sponsors during construction or implementation of each project to install a sign at a prominent location which includes a statement that the project is financed under California Water Security, Clean Drinking Water, Coastal and Beach Protection Fund of 2002, administered by State of California, Department of Water

Resources. Project Sponsor shall notify the UMRWA Grant Manager State as each sign has been erected and provide a site map with the sign location noted and a photograph of each sign.

8. Require Project Sponsors to comply with all applicable laws and regulations regarding securing competitive bids and undertaking competitive negotiations in Grantee's contracts with other entities for acquisition of goods and services and construction of public works with funds provided by State under the Funding Agreement.

Work Plan Tasks

There are four projects included in this Proposition 84 Implementation Grant application: the Lake Camanche Tank Rehabilitation & Lateral Replacement Project, the West Point Water Main & Tank Replacement Project, the Amador Water System Leak Testing & Repair Program, and the Camanche Regional Water Treatment Plant Phase 1 Project. Tasks required to implement each project are described in the following sections. These same tasks are reflected under the same project headings in Attachment 4 – Budget and Attachment 5 – Schedule, where the tasks-specific and overall project budgets and schedules are presented.

Lake Camanche Tank Rehabilitation & Lateral Replacement Project

Lead Agency: Amador Water Agency

Total Cost: $560,135

Grant Request: $553,555

Funding Match: $6,580 (1%; a funding match waiver is requested)

Detailed Description

The Amador Water Agency is the main water purveyor in western Amador County with over 6,700 connections in their service area. AWA serves the cities of Amador City, Ione, Jackson, Plymouth, Sutter Creek and portions of unincorporated western Amador County, including the community of Lake Camanche Village. Lake Camanche Village is a major subdivision near the shore of Camanche Reservoir (a recreation and flood control reservoir) consisting of several units in western Amador County and has been identified as a DAC. The Lake Camanche Village Service Area is known as Water Improvement District #7 (WID #7) by AWA and consists of three groundwater wells, storage tanks, hydro-pneumatic tanks, and booster pumps. The AWA WID #7 service area has 733 connections and provides an average of 0.27 MGD of potable water. [Note: WID#7 is sometimes also referred to as CSA#3, which is a Community Service Area established by Amador County when it approved the Lake Camanche Village subdivision. AWA established WID#7 when it took control of the Lake Camanche water system from the county. The area contained within WID#7 and CSA#3 is identical.]

Five of the storage tanks in WID #7 are redwood tanks that severely leak at high water levels due to weather damage, small animal damage and general decay. To minimize water losses from the leaking tanks, stored water levels have been lowered and the usable storage volume reduced. After years of simply reducing the operational storage volume to minimize water loss, the available storage volume in the tanks is now significantly below the nominal capacity by several feet in some tanks. The reduction in storage volume has reduced the emergency availability of water during power failures, fires, and droughts by approximately 13%.

AWA proposes to improve the Lake Camanche Village water distribution system by fabricating and lining the redwood tanks with geomembrane liners. Lining the redwood tanks not only reduces water loss and increases storage capacity, it also improves the water quality by reducing the substrate that microorganisms can grow on. And lining the tanks is significantly less expensive than replacing the tanks and allows the tanks to function reasonably for 25 or more years. Lining the five redwood tanks in WID #7 will ensure that sufficient water is available for emergency situations and for increasing water demands in the disadvantaged community of Lake Camanche Village. Figure 5, below, shows the location of the Lake Camanche Village water system infrastructure.

In addition to the storage tanks, service laterals in the Lake Camanche Village distribution system are contributing significantly to water losses in the system. The current polyethylene ("Poly-Tube") laterals were installed in the late 1970s and have become very brittle and subject to severe longitudinal cracking, catastrophically failing at an increasing rate. The failure of the service laterals does not just contribute to significant water losses; the displaced water has also caused considerable infrastructure damage.

The Amador Water Agency proposes to replace 200 existing Poly-Tube service laterals with 3/4-inch copper pipe. Replacement of the service laterals will reduce the water losses in the distribution system and minimize infrastructure damage from cracked and leaky pipes.

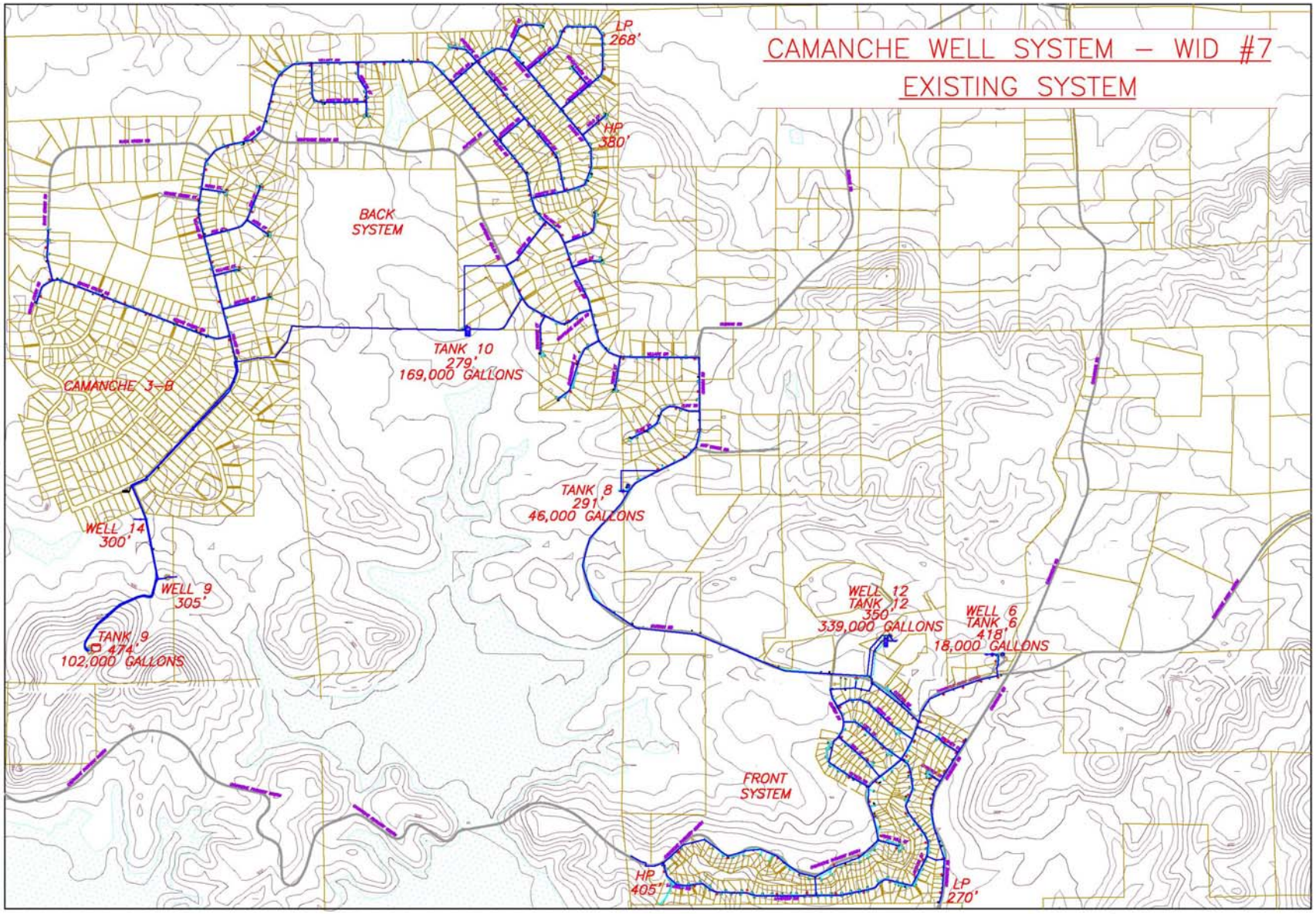

Figure 5: Lake Camanche Village Water System Infrastructure

Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions, project status meetings, preparation of quarterly reports, and normal communications between AWA, UMWRA, and consultants and/or contractors. Budget Category (a) (Direct Project Administration) includes Task 1: Administration, Task 2: Labor Compliance Program, and Task 3: Reporting, which are described in more detail as follows.

Task 1: Administration

Coordination

AWA is a member of the Upper Mokelumne River Watershed Authority (UMRWA), the Regional Water Management Group for the MAC Region. UMRWA will be responsible for managing and distributing awarded grant funds to project proponents such as AWA. Any grant money awarded to the Lake Camanche Tank Rehabilitation & Lateral Replacement Project will be directed to AWA by UMRWA. An agreement between UMRWA and AWA (as the project sponsor) will be executed following grant award.

Work items to be included under this task include the UMRWA-AWA grant agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications between AWA and UMRWA, and Board communications), preparation and implementation of a Project Performance Monitoring Plan (discussed below), documents management, schedule review, and reporting (Quarterly Reports and a Project Completion Report; also discussed below). Prior to June 1, 2011, AWA plans on spending a total of $6,580 on project administration relating to the Lake Camanche Tank Rehabilitation & Lateral Replacement Project, including the completion of conceptual project design and preparation of work products in support of this Prop 84 IRWM Implementation Grant Proposal.

Project Performance Monitoring Plan

A Monitoring Plan will be prepared for the Lake Camanche Tank Rehabilitation & Lateral Replacement Project to provide a framework for assessing and evaluating the project performance once it is implemented. The Monitoring Plan will identify the measures that will be used to monitor progress toward achieving the specific project goals of reducing/minimizing water losses within AWA's water system, improving water quality and improving water supply reliability. The Monitoring Plan will also provide tools to monitor and measure project processes and will guide final project performance reporting that will fulfill grant agreement requirements. Attachment 6 of this Proposal consists of Performance Measures for the Lake Camanche Tank Rehabilitation & Lateral Replacement Project. Project goals, desired outcomes, output indicators, outcome indicators, measurement tools and methods, and targets were developed for this Project. The identified parameters will provide a basis for the Monitoring Plan to be developed during Task 1.

Task 1 Deliverables:

- UMRWA-AWA grant agreement
- Project start-up coordination meeting agenda and meeting minutes
- Monthly invoices
- Quarterly project status reports
- Reimbursement requests
- Project Performance Monitoring Plan

Task 2: Labor Compliance Program

AWA does not currently have a Labor Compliance Program (LCP). After June 1, 2011, but prior to the commencement of any prevailing wage labor, a consultant will be retained to prepare an LCP. Additionally, AWA will file annual reports with the Director of the Department of Industrial Relations using the prescribed annual reporting forms.

Note: the budget table and direction provided under the *Proposal Solicitation Package, Integrated Regional Water Management, Proposition 84 Implementation Grant Program, August 2010* provides for only labor under this budget category. Therefore, the costs associated with contracting for a LCP was included in budget category (g) – Other Costs, in Attachment 4.

Task 2 Deliverables:

- Labor Compliance Program
- Annual Report

Task 3: Reporting

No work has been or will be completed under Task 3 for the Lake Camanche Tank Rehabilitation & Lateral Replacement Project prior to June 1, 2011. Following execution of the grant agreement, Quarterly Reports will be prepared assessing the progress and accomplishments of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project. The Quarterly Reports to DWR will likely include the following information.

- Time period covered by the request
- Description of activities since the previous report
- Status of the project relative to the progress schedule.
- An estimate of the percentage of work completed.
- Records of expenditures.
- Percentages of State and total funding expended to date.
- Key issues that need to be resolved.

A Project Completion Report will also be prepared at the end of the project, anticipated to be December 2012. The Project Completion report will include the following:

- An executive summary (two page maximum);
- Records of expenditures;
- A comparison of the projected benefits versus the measured benefits;

- A comparison of the original schedule and the actual schedule;
- A discussion of problems that occurred during construction and how the problems were solved;
- Submittal of any required deliverables that were not previously submitted; and
- A list of required deliverables submitted previously with dates of submittal and DWR acceptance.

AWA will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

Easement acquisitions and/or right-of-ways are not required for the implementation of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Task 4: Assessment and Evaluation

Planning documents will not be required for the Lake Camanche Tank Rehabilitation & Lateral Replacement Project as the Project is part of the on-going maintenance and repair of the aging AWA water system.

Task 4 Deliverables:

- None

Task 5: Final Design

After June 1, 2011, AWA will begin completing design of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project. A project manager, assistant engineer and distribution operator will be assigned to the project and collaborate on the design of the Project; 10% design will be completed by August 2011 and final design will be done by November 2011. The 10% design will show laterals to be replaced and the siting and layout of the tanks to be lined. The 100% or final design will be the design package that is used to advertise the project for bid for construction. The package consists of the complete, signed plans and specifications.

During project development the following methodologies and standards will be used:

- American Water Works Association (AWWA) materials standards;
- American Society for Testing and Materials (ASTM) standards;
- Amador Water Agency hydraulic modeling standards (H20Net); and
- Others as identified as applicable.

Additionally, during design, AWWA and ASTM Construction Standards, AWA Standard Specifications, and Occupational Safety & Health Administration (OSHA) regulations and industry standard practice will be used as construction standards and health and safety standards.

Task 5 Deliverables:

- 10% Design
- Final (100%) Design Package
- Bid Package including Final Plans and Specifications

Task 6: Environmental Documentation

Environmental documentation for this project is not yet complete. Because the project involves infrastructure replacement and rehabilitation, it is expected that there will be no significant impacts resulting from the project. Therefore, a Categorical Exemption or Initial Study/Mitigated Negative Declaration (IS/MND) is anticipated for CEQA compliance. To be conservative, AWA is assuming an IS/MND is necessary, and the document will be prepared following completion of the 10% design. Should any significant impacts be identified as part of the Initial Study preparation, the project plans will be revised to avoid the impacts and/or other mitigating measures will be implemented to reduce the level of the impact to less-than-significant. The Initial Study will be completed by August 2011 and a Negative Declaration (or Mitigated Negative Declaration, if necessary) shall be declared. The Negative Declaration (or Mitigated Negative Declaration) will be circulated for a 30 day public review period and will include the following:

- A description of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project;
- The location of the project and a site map;
- A summary of the need for the Project;
- A proposed finding that the Project will not have a significant impacts on the environment;
- An attached copy of the Initial Study documenting reasons for the finding of no significant impacts; and
- Mitigation measures, if applicable.

After the public review period, the Negative Declaration (or Mitigated Negative Declaration) will be finalized. Notices for both the tank lining portion and the lateral replacement portion of the Project will be published.

Task 6 Deliverables:

- Initial Study
- Approved and adopted Negative Declaration or Mitigated Negative Declaration
- Publish Notice for Tank Rehabilitation
- Publish Notice for Lateral Replacement

Task 7: Permitting

Implementation of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project will require AWA to acquire an Amador County Encroachment Permit. Additionally, AWA will coordinate directly with the California Department of Public Health (CDPH) for permit compliance as this is a drinking water project.

Task 7 Deliverables:

- Amador County Encroachment Permit
- California Department of Health Permits (as required)

Budget Category (d): Construction/Implementation

AWA could potentially perform the lateral replacement with in-house staff, but it will depend on staff availability at the time of construction. For the purposes of budgeting, it is assumed AWA will bid out both the tank rehabilitation and later replacement portion of the Project.

Task 8: Construction Contracting

All work under Task 8 will begin after June 1, 2011 by AWA staff. Work items include advertising for bid, conducting the pre-bid contractors meeting, bid opening, reviewing the bids and issuing the Notice of Award/Notice to Proceed (NOA/NTP), as well as the Construction Contract Award. The Final Design package completed during Task 5 will be used for the bid advertisement.

Construction submittals and associated dates are as follows:

1. Bid advertisement: 11/15/2011
2. Bid opening: 12/1/2011
3. Bid NOA/NTP: 3/1/2012
4. Notice of Construction Contract Award: 3/1/2012

Task 8 Deliverables:

- Notice to Bidders
- Pre-bid contractors meeting agenda and minutes
- Written bid evaluation
- Notice of Award
- Notice To Proceed
- Construction Contract Award

Task 9: Construction

Task 9 consists of three subtasks required for project construction. Subtask 9.1 consists of pre-construction work items including mobilization and site preparation. Subtask 9.2 consists of the actual project construction, while Subtask 9.3 consists of post-construction tasks including final inspections, performance testing, demobilization and site restoration (if required).

Subtask 9.1: Mobilization and Site Preparation

Upon the NTP, the contractor will mobilize its equipment and crew according to the designated staging plan. Some of the equipment that will be required for construction of the Lake Camanche Tank Rehabilitation & Lateral Replacement Project include a crane, back hoe, low bed, crew truck, compactor, saw cutter, suction vacuum, and paver; this equipment will be brought to the site during this subtask. Also as part of this subtask, a traffic control plan will be prepared and appropriate signs, barricades, cones, flaggers and other necessary traffic control devices mobilized to the work site.

Subtask 9.2: Project Construction

Under Subtask 9.2, the geomembrane liners and service laterals will be installed. The construction contractor has sole and complete responsibility for the safety of all personnel and property onsite for the project duration and will perform within OSHA and any other applicable codes, regulations, and ordinances.

Subtask 9.3: Performance Testing and Demobilization

Final liner and lateral inspections will be conducted under this subtask, along with all required performance testing (e.g. pressure testing of laterals). Additionally, the water quality from tanks with new liners will be tested to ensure the water meets all regulatory limits as set forth by the CDPH. This water quality data will be provided to the CDPH in order to obtain any drinking water permit modifications. Demobilization and site restoration will also occur under this subtask.

Task 9 Deliverables:

- Interim and final inspection reports
- Pressure and leak testing report
- Water quality testing data

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

No anticipated environmental mitigations or enhancements will be required for this project. Construction will take place in previously disturbed areas and in public streets, and will not disturb more than one acre of soil (and therefore will not require coverage under the State's General Stormwater NPDES permit for construction).

Task 10 Deliverables:

- None

Budget Category (f): Construction Administration

Task 11: Construction Administration

During construction, 60 hours will be spent by the AWA construction manager for construction administration tasks for the tank lining portion of the project and 160 hours will be spent on the lateral replacement portion of the project. Construction Administration work items include:

- Review contractor's schedule and make recommendations
- Manage and coordinate all project inquiries
- Serve as primary point of contact for project correspondence
- Manage and coordinate all contractor correspondence and contracts
- Maintain detailed project records
- Receive, log, and distribute all submittals for review
- Inspect completed construction
- Recommend final payment and submit all project files for archiving

Task 11 Deliverables:

- Communication/correspondence records
- Field logs
- Project records

Budget Category (g): Other Costs

Other expected costs associated with the Lake Camanche Tank Rehabilitation & Lateral Replacement Project are a Labor Compliance Program and legal counsel fees for project-related consultation. Costs for the contract Labor Compliance Program for the Lake Camanche Tank Rehabilitation & Lateral Replacement Project is included in this budget category. This item was placed in this category as the budget table and direction provided under the *Proposal Solicitation Package, Integrated Regional Water Management, Proposition 84 Implementation Grant Program, August 2010* provides for only labor under the Project Administration budget category.

Budget Category (h): Construction/Implementation Contingency

The Lake Camanche Tank Rehabilitation & Lateral Replacement Project is a ministerial project for AWA; as such, there is a high degree of confidence in the cost estimate presented herein. As a result, there is no construction/implementation contingency percentage applied to this project.

Amador Water System Leak Detection & Repair Program

Lead Agency: Amador Water Agency

Total Cost: $304,665

Grant Request: $228,198

Funding Match: $76,467 (25%)

Detailed Description

The Amador Water Agency operates the Amador Water System (AWS) which conveys water to the cities of Amador City, Ione, Jackson, Plymouth, Sutter Creek and portions of unincorporated Amador County, including Eagle's Nest, Ridge Road, Sutter Hill, New York Ranch, Running Gold and parts of Martell. Significant portions of the water conveyance system were constructed nearly sixty years ago. Due to leakage and pipe failure, these aged water conveyance pipelines are inefficient and wasteful in conveying available, potable water resources within the AWS. As the first phase of the Amador Water System Leak Detection & Repair Program, AWA proposes to install a system of eighteen "master meters" on key pipelines within the AWS to determine those which have the most significant leakage and thus the greatest need for repair or replacement. The portion of the AWS served by the Tanner Water Treatment Plant currently experiences an estimated 6% water loss while the portion served by the Ione Water Treatment Plant experiences an estimated 9% water loss. (Note; These water loss estimates are based on AWA operations staff experiences and field observations and are viewed as best guess approximations.) This is equivalent to a water loss of 47 million gallons (MG) per year from the Tanner Water Treatment Plant and 45 MG per year from the Ione Water Treatment Plant. Figure 6 shows the location of the AWS infrastructure.

As previously stated, the AWS Leak Detection & Repair Program is a phased project. The first phase consists of installing the master meters to identify the pipelines in most need of replacement or rehabilitation. These repair/replacement projects will then be prioritized, with the highest priority facilities being replaced or repaired as part of the second project phase. The actual replacement and rehabilitation of water conveyance facilities within the AWS will be funded with AWA reserves, available grants, and through water rate recovery. This essential first phase of the AWS Leak Detection & Repair Program will allow AWA to incorporate the prioritized repairs/replacements into their financial planning and will provide the necessary documentation for accessing future grant funding.

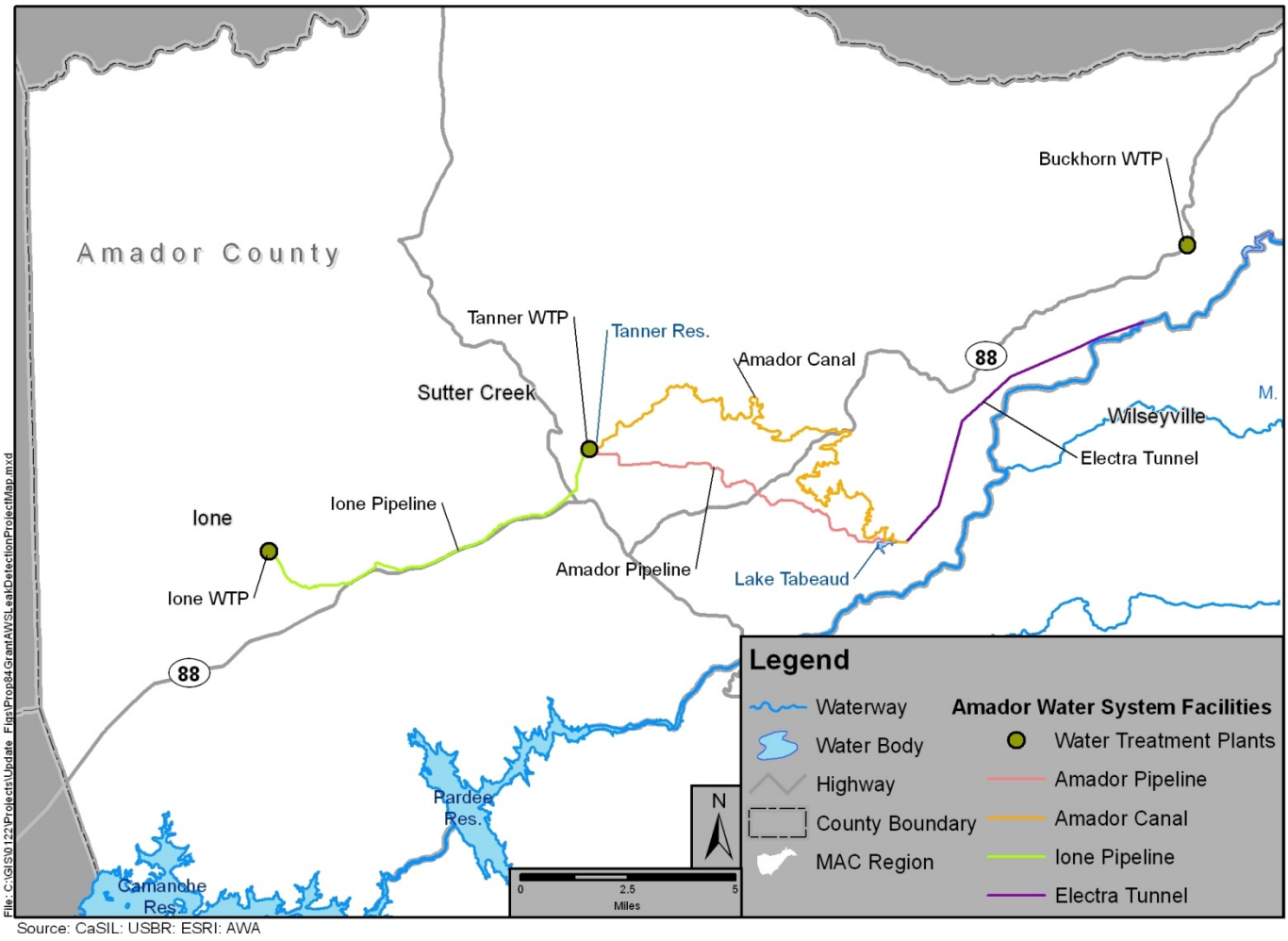

Figure 6: Amador Water System Infrastructure

The Amador Water System Leak Detection & Repair Program was identified in the 2006 MAC IRWM Plan (Section 5.4.26 of the Plan). Additionally, the need for a leak detection program was identified as part of AWA's 2010 *Water Conservation Plan*, specifically as part of demand management measure (DMM) number 3, System Water Audits, Leak Detection and Repair. Implementation of the AWS Leak Detection & Repair Program will help maximize existing water resources for domestic, commercial and agriculture uses and will help AWA to achieve its per capita water use reduction targets as will be required in the upcoming 2010 Urban Water Management Plan. Other benefits of the program include water conservation via a reduction in water loss, environmental protection (by reducing dependence on the Mokelumne River), and increased water supply reliability. The goal to reduce water system losses will improve and enhance the sustainability of the limited water source capacity and reduce wasting of this precious resource. Reducing water losses by correcting deficiencies within the water system is a high priority for AWA and its customers. Figure 7 shows the proposed locations for meters in the system served by the Tanner Water Treatment Plant, while Figure 8 shows the proposed locations for meters in the system served by the Ione Water Treatment Plant.

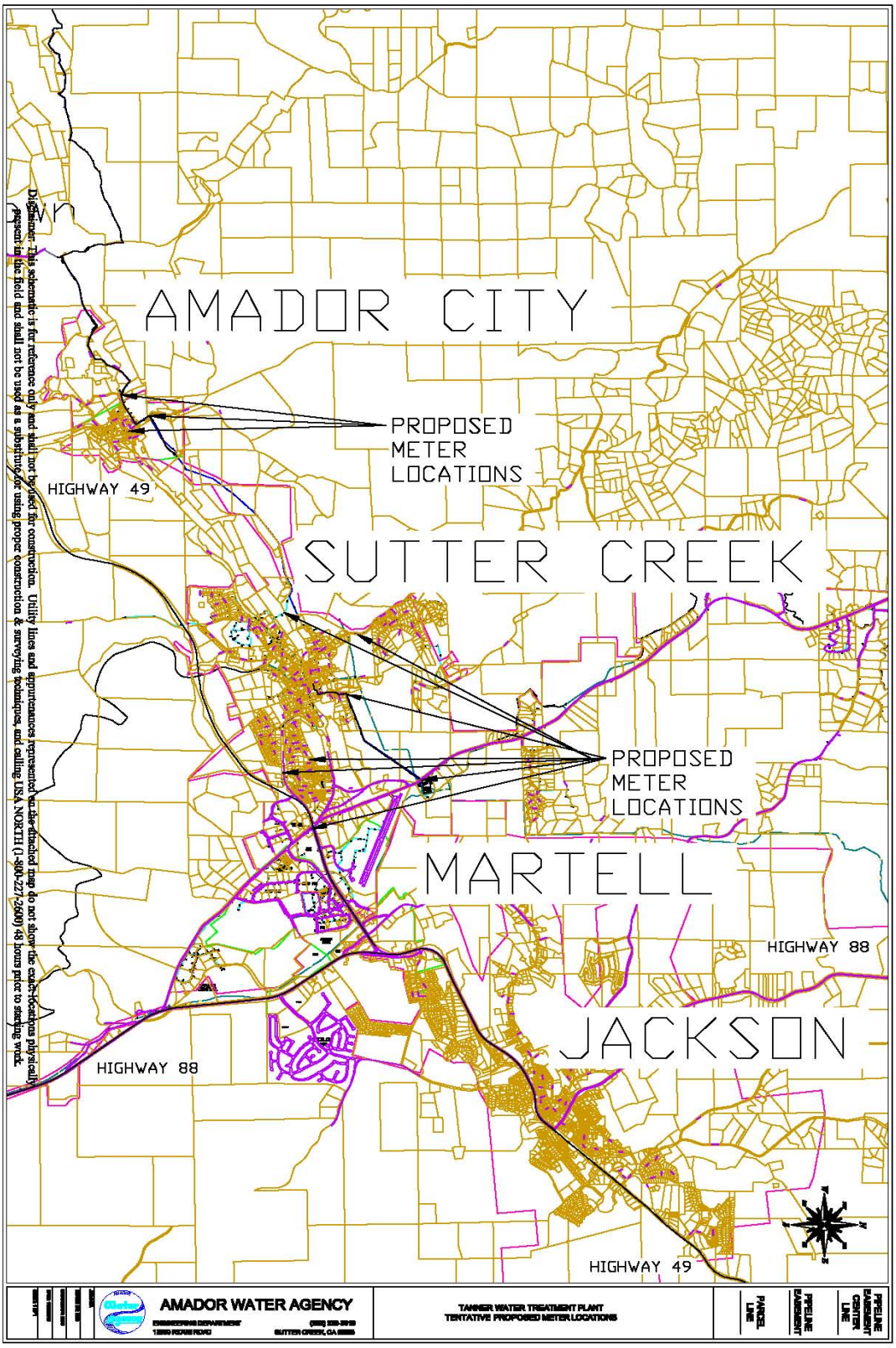

Figure 7: Proposed Meter Locations – Tanner WTP System

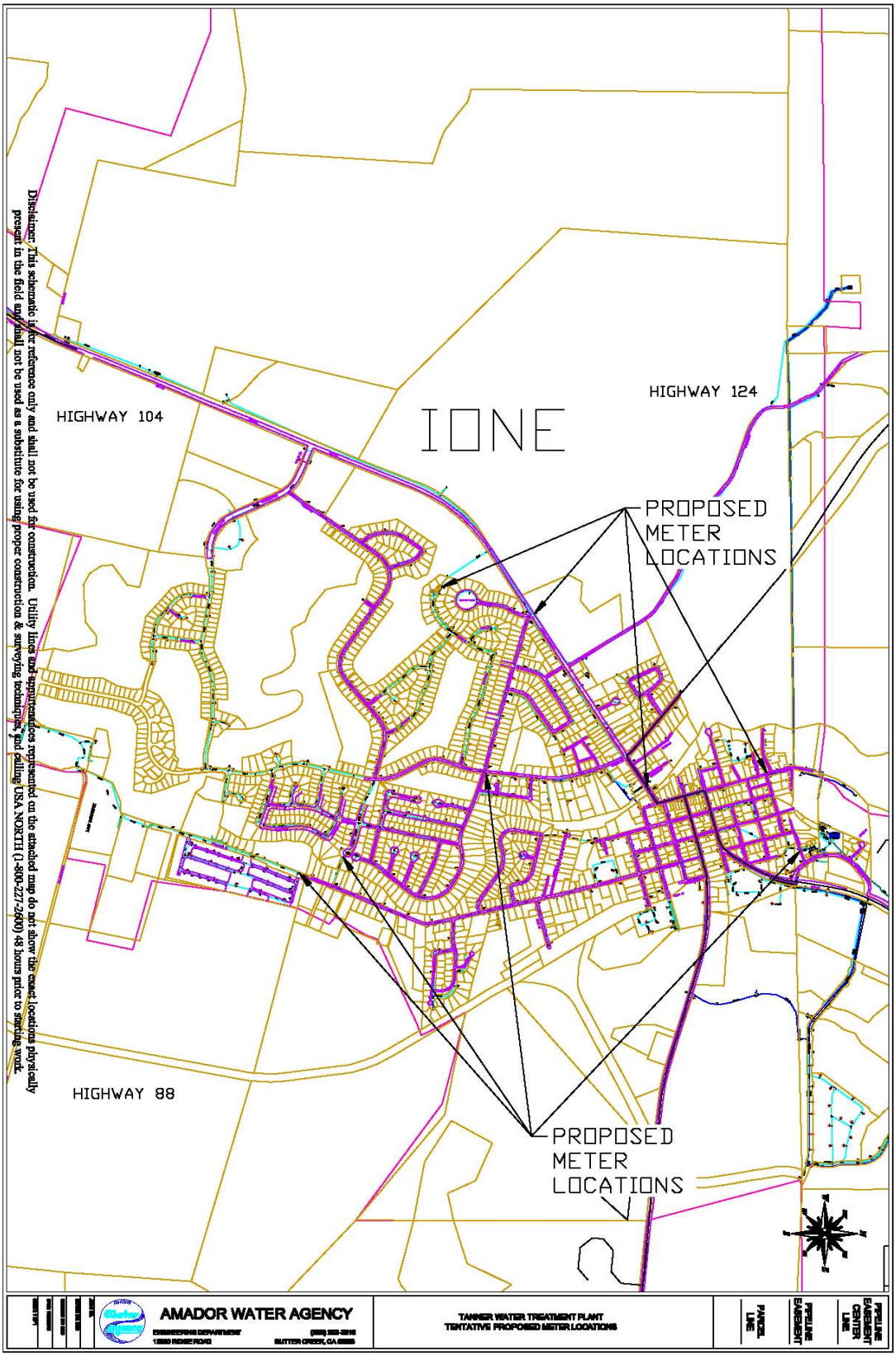

Figure 8: Proposed Meter Locations – Ione WTP System

Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions such as invoice approval and schedule review, project status meetings, preparation of quarterly reports, spot field inspections and normal communications between AWA and other agencies and consultants involved in the project and the grant.

Task 1: Administration

Coordination

As noted in the previous project, AWA is a member of UMRWA, the Regional Water Management Group who will be responsible for managing and distributing awarded grant funds to project proponents such as AWA. Any grant money awarded to the AWS Leak Detection & Repair Program will be directed to AWA by UMRWA for use in project funding. An agreement between UMRWA and AWA (as the project sponsor) will be executed following grant award.

Work items to be included under this task include the UMRWA-AWA grant agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications between AWA and UMRWA, and Board communications), preparation and implementation of a Project Performance Monitoring Plan (discussed below), documents management, schedule review, and reporting (Quarterly Reports and a Project Completion Report; also discussed below). Prior to June 1, 2011, AWA plans on spending a total of $7,285 on project administration relating to the Amador Water System Leak Detection & Repair Program, including the completion of conceptual project design and preparation of work products in support of this Prop 84 IRWM Implementation Grant Proposal.

Project Performance Monitoring Plan

A project-specific Monitoring Plan will be prepared for the AWS Leak Detection & Repair Program to provide a framework for assessment and evaluation of program performance. The Monitoring Plan will identify performance measures that will be used to evaluate how well the program is achieving its goals of identifying significant water leaks in Amador Water System and developing a prioritized list of repairs and/or replacements. Water use records obtained from the new master meters will be used also with other system meters to compare the average water use in different parts of the AWS and to identify the locations with significant leaks. Attachment 6 of this Proposal consists of Performance Measures for the AWS Leak Detection & Repair Program and discusses specific project goals, desired outcomes, output indicators (such as the number of master meters installed), outcome indicators (such as the total volume of water saved), measurement tools and methods, and targets that were developed for this Project. These performance measures will form the basis for the Monitoring Plan to be developed under this task.

Task 1 Deliverables:

- Completed UMRWA – AWA grant agreement
- Project start-up coordination meeting agenda and meeting minutes
- Monthly invoices
- Quarterly project status reports
- Reimbursement requests
- Program Performance Monitoring Plan

Task 2: Labor Compliance Program

AWA staff will complete all work outlined herein for the AWS Leak Detection & Repair Program. Per Section 2.9.2 of the California Department of Industrial Relations, Division of Labor Standards Enforcement *Public Works Manual* (May 2009), "Labor Code §1771 expressly provides that the prevailing wage requirement is 'not applicable to work carried out by a public agency with its own forces.'" Therefore, for this project, a Labor Compliance Program is not required and will not be developed.

Task 2 Deliverables:

- None

Task 3: Reporting

No work has been or will be completed under Task 3 prior to June 1, 2011. Quarterly Reports to DWR will be prepared during program implementation, assessing the progress and accomplishments of the AWS Leak Detection & Repair Program. The Quarterly Reports will likely include the following information:

- The time period covered by the request.
- Description of activities since the previous report.
- Status of the project relative to the progress schedule.
- An estimate of the percentage of work completed.
- Records of expenditures.
- Percentages of State and total funding expended to date.
- Key issues that need to be resolved.

A Project Completion Report will be prepared at the end of Phase 1 of the overall program, anticipated to be December 2012. The completion report will include the following:

- An executive summary (two page maximum);
- Records of expenditures;
- A comparison of the projected benefits versus the measured benefits;
- A comparison of the original schedule and the actual schedule;
- A discussion of problems that occurred during construction and how the problems were solved;
- Submittal of any required deliverables that were not previously submitted; and
- A list of required deliverables submitted previously with dates of submittal and DWR acceptance.

AWA will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

The Amador Water System Leak Detection & Repair Project involves the installation of master meters on existing mains, followed by the identification and repair of significant leaks. As such, this project does not require any land purchases. Phase 1 of the program (meter installation and leak identification) does not require any easements. Any easements that may be required for leak repairs (Phase 2 of the program) have not yet been determined.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Planning documents are not necessary to implement the first phase of the AWS Leak Detection & Repair Program due to the investigatory nature of the project. At this time, the Phase 1 project is considered to be at the conceptual level.

Task 4: Assessment and Evaluation

There are no planning studies that will be prepared for the AWS Leak Detection & Repair Program. The engineering department understands the AWS and is implementing this Program as part of on-going maintenance as the water infrastructure in the system is reaching the end of its useful life. The proposed program phase, as described herein, is investigatory in nature and will, in and of itself, be an assessment of the AWS.

Task 4 Deliverables:

- None

Task 5: Final Design

After June 1, 2011, AWA will begin completing design of the AWS Leak Detection & Repair Program. A project manager, assistant engineer and distribution operator will be assigned to the project and collaborate on the design of the Project; 10% design will be completed by August 2011 and final design will be done by November 2011. The 10% design will show project siting and layout of the master meters, and contain background geologic research and any constraints there may be that apply to the project. The 100% or final design will consist of the complete, signed plans and specifications.

During project design, the following methodologies and standards will be used:

- American Water Works Association (AWWA) materials standards;
- American Society for Testing and Materials (ASTM) standards;
- Amador Water Agency hydraulic modeling standards (H20Net); and

- Others as identified as applicable.

Additionally, during design, AWWA and ASTM Construction Standards, AWA Standard Specifications, and Occupational Safety & Health Administration (OSHA) regulations and industry standard practice will be used as construction standards and health and safety standards.

Task 5 Deliverables:

- 10% Design
- Final (100%) Design Package

Task 6: Environmental Documentation

Environmental documentation for this project is not yet complete. Because the project involves meter installation, it is expected that there will be no significant impacts to the environment and that either a Categorical Exemption or Negative Declaration can be completed for CEQA compliance. To be conservative, AWA is assuming that an Initial Study will be prepared as part of the CEQA documentation and that a Negative Declaration will be prepared for the project. Should any potential significant impacts be identified as part of the Initial Study preparation, the project plans can be revised to avoid the impacts and/or mitigation measures implemented to ensure that the impact is less-than-significant. The Initial Study will be complete by August 2011 and a Negative Declaration shall be declared thereafter. The Negative Declaration will be circulated for public review and will include the following:

- A description of the AWS Leak Detection & Repair Program;
- The location of the project and a site map;
- The need for the project;
- A proposed finding that the Project will not have a significant effect on the environment;
- An attached copy of the Initial Study documenting reasons for the finding of no significant impacts; and
- Mitigation measures, if applicable.

After 30 day public review period, the Negative Declaration will be finalized.

Task 6 Deliverables:

- Initial Study
- Approved and adopted Negative Declaration

Task 7: Permitting

Implementation of the first phase of the AWS Leak Detection & Repair Program will also require AWA to acquire encroachment permits, as needed, to access the AWS mains. As such, AWA will coordinate with Amador County and the cities in which the mains are located (Amador City, Ione, Jackson, Plymouth and Sutter Creek) to obtain said permits. These will be acquired by March 2012.

Task 7 Deliverables:

- City Encroachment Permits
- County Encroachment Permits

Budget Category (d): Construction/Implementation

Task 8: Construction Contracting

Work under Task 8 is not required because all other construction/implementation tasks will be completed by AWA staff; it will not be contracted out.

Task 8 Deliverables:

- None

Task 9: Construction

Construction of the first phase of the AWS Leak Detection & Repair Program is anticipated to begin in April 2012. Work for Task 9 is divided into three subtasks as described below.

Subtask 9.1: Mobilization and Site Preparation

Under this subtask, AWA will mobilize its equipment and crew according to the designated staging area(s). Some of the equipment that will be required for implementation of the AWS Leak Detection & Repair Program including a crane, back hoe, low bed, and crew truck; this equipment will be brought to the site during this subtask.

Subtask 9.2: Project Construction

Under Subtask 9.2, the 18 master water meters and associated underground vaults will be installed. AWA will perform within OSHA and any other applicable codes, regulations, and ordinances during construction.

Subtask 9.3: Performance Testing and Demobilization

AWA will perform meter calibration and data verification under this subtask. Additionally, as part of Subtask 9.3, demobilization and site restoration (as required) will be completed.

Task 9 Deliverables:

- Final inspection report
- Meter calibration report

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

No anticipated environmental mitigations or enhancements will be required for this project. Construction will take place in previously disturbed areas and in public streets, and will not disturb more than one acre of soil (and therefore will not require coverage under the State's General Stormwater NPDES permit for construction).

Task 10 Deliverables:

- None

Budget Category (f): Construction Administration

Task 11: Construction Administration

During construction from approximately April 2012 through December 2012, 60 hours will be spent by the construction manager at AWA for construction administration tasks. Construction Administration work items include:

- Review contractor's schedule and make recommendations
- Manage and coordinate all project inquiries, serve as point of contact
- Manage and coordinate all contractor correspondence
- Maintain detailed project records
- Receive, log, and distribute all submittals for review
- Inspect completed construction
- Recommend final payment and submit all project files for archiving

Task 11 Deliverables:

- Communication records
- Field logs
- Project records

Budget Category (g): Other Costs

Other expected costs associated with the Amador Water System Leak Detection & Repair Program are legal review costs and permit fees associated with obtaining the associated County and city encroachment permits for meter installation.

Budget Category (h): Construction/ Implementation Contingency

The Amador Water System Leak Detection & Repair Program is a ministerial project for AWA; as such, there is a high degree of confidence in the cost estimate presented herein. As a result, there is no construction/implementation contingency percentage applied to this project.

West Point Water Main & Tank Replacement Project

Lead Agency: Calaveras County Water District

Total Cost: $1,484,814

Grant Request: $1,484,814

Funding Match: $0 (0%; a funding match waiver is requested)

Detailed Description

The Calaveras County Water District (CCWD) operates a domestic water system in West Point, California, a disadvantaged community of approximately 560 connections. CCWD is seeking funding to assist this low-income community in replacing key elements of its aging water system. The West Point water system is currently in such a deteriorated condition that CCWD estimates about 25% of treated water conveyed to the system is unaccounted for due to leaking tanks, leaking pipelines, and outdated meters. The water system is one of the oldest in the area and entirely sub-standard in terms of capacity to deliver fire flows and overall reliability to serve the community. The proposed West Point Water Main & Tank Replacement Project will provide immediate improvement in water savings, water pressure, capacity, and fire flow for the community. It will reduce or eliminate the extreme risk of a potable water supply loss over an extended period of time due to a large fire that has a 100% chance of occurring each year. The community of West Point is in an extreme fire hazard area as denoted by the California Department of Forestry & Fire Protection. Replacing the at-risk redwood water storage tank with a steel, ignition-resistant tank will reduce or eliminate the loss of West Point's potable water supply for an extended period of time resulting from fire damaging or destroying the existing tank. Similarly, the tank replacement and main replacements will ensure fire-fighting capacity in the area, ultimately saving human lives and structures, and improving public health and safety.

In 2002, CCWD initiated the *Wilseyville/Bummerville System Improvements Feasibility Study,* and a final report was completed in 2004. This study was conducted to examine the feasibility of facility improvements to better supply the needs of West Point and to bring the existing system up to current standards and codes. The study concluded that the identified projects (including the West Point Water Main and Tank Replacement Project) should move forward, but due to lack of funding, these projects have been deferred. Subsequently, in 2005, the *West Point Water System Master Plan*, a system-wide evaluation of the West Point water system, was conducted to identify recommended system improvements and scheduling in support of a financing plan for system upgrades. The Bummerville tank replacement project and the proposed main replacements were some of the projects identified in the West Point Master Plan; estimated costs to bring the entire water system to current standards was between $4 million and $5 million. Subsequent to that report, CCWD conducted its *Calaveras County Water District West Point Wilseyville/Bummerville System Improvements Final Feasibility Study* in 2004. This study was conducted to examine the feasibility of facility improvements to better supply the needs of West Point and to bring the

existing system up to current standards and codes. The study concluded that the recommended project should proceed forward, but that improving the supply and storage capacity of the system to help protect from potentially devastating fire would make no sense without upgrading the distribution system to deliver the flows. Finally, in 2009, CCWD completed the *West Point Preliminary Engineering Report.* This report contained the Initial Study evaluating the West Point water distribution system improvements (including the Bummerville tank and West Point main replacements) based on the November 2002 pre-design. This document found that, generally speaking, the repair projects that were reviewed would have no impacts or less than a significant impact on most of the topical areas included in the environmental checklist, and would have beneficial impacts to the rural communities that have inadequate water storage, delivery systems and fire fighting capabilities.

The proposed project consists of replacing deteriorating water mains and a leaking redwood water storage tank in West Point. The water main replacement will include 3,900-feet of 12-inch transmission main along Winton Road between the water treatment plant and downtown West Point and an additional 2,700 feet of water mains within the downtown area along Main Street and Pine Street. A new 50,000-gallon ignition-resistant steel water storage tank will replace the leaking redwood tank and 1,500 feet of galvanized steel line to the tank will be replaced with PVC pipe. Figure 9 shows the location of the infrastructure replacement.

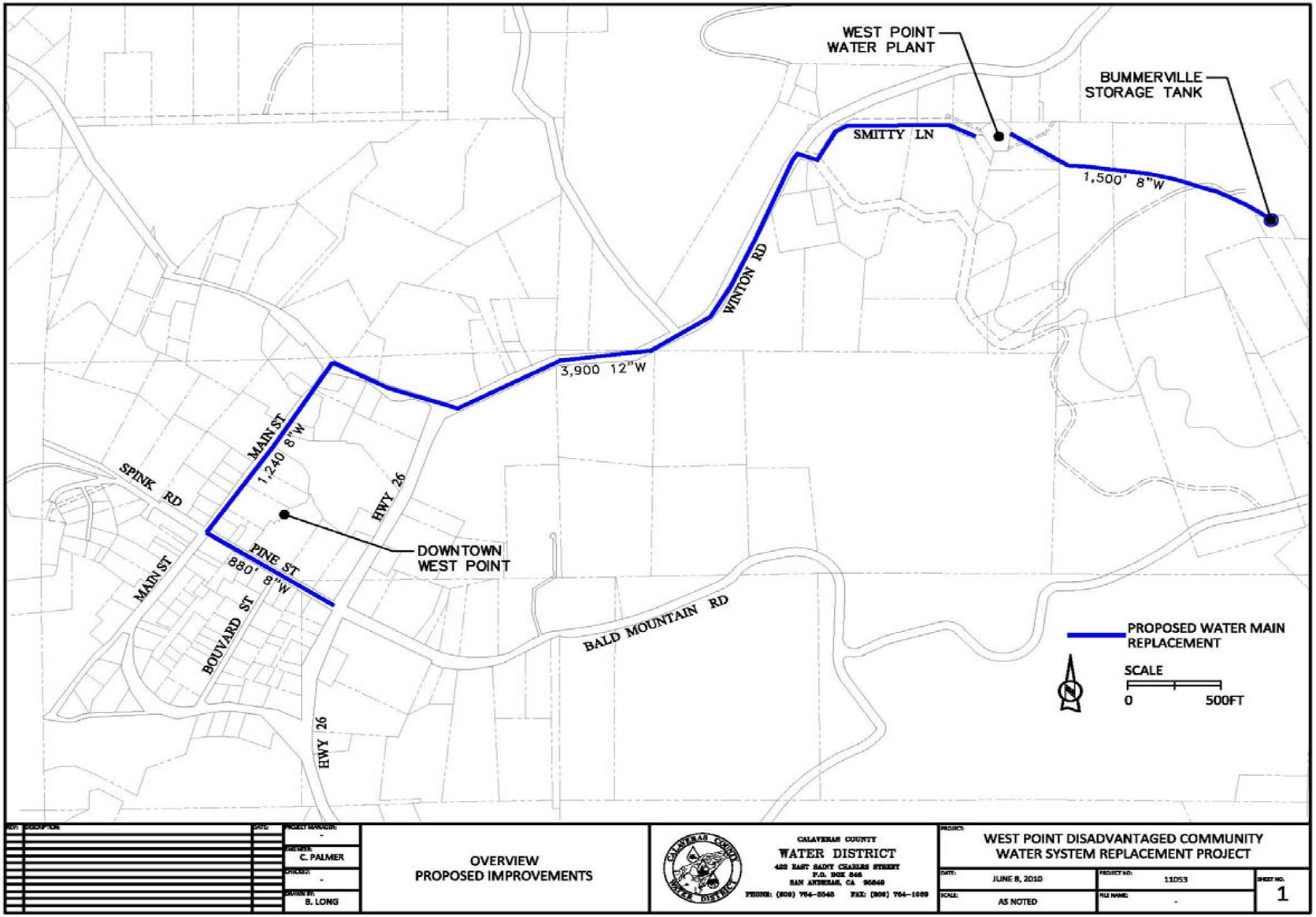

Figure 9: West Point Water System Infrastructure

Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions (e.g. invoice approval, schedule review), project status meetings, preparation of quarterly reports, spot field inspections and normal communications between the Contractor and Engineer. Budget Category (a) (Direct Project Administration) includes Task 1: Administration, Task 2: Labor Compliance Program, and Task 3: Reporting, which are described in more detail as follows.

Task 1: Administration

Coordination

CCWD is a member of the Upper Mokelumne River Watershed Authority (UMRWA), the Regional Water Management Group for the MAC Region. UMRWA will be responsible for managing and distributing awarded grant funds to project proponents such as CCWD. Any grant money awarded to the West Point Water Main & Tank Replacement Project will be directed to CCWD by UMRWA. An agreement between UMRWA and CCWD (as the project sponsor) will be executed following grant award

Work items to be included under this task include the UMRWA-CCWD grant agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications with UMRWA, and Board communications), progress meetings throughout the duration of the West Point Water Main & Tank Replacement Project, preparation and implementation of a Project Performance Monitoring Plan (discussed below), documents management, schedule review, and reporting (Quarterly Reports and a Project Completion Report; also discussed below). Additionally, as part of this task CCWD staff will coordinate internally and with other necessary agencies, consultants and contractors in order to implement the Project. Coordination will be required to execute the grant agreement with DWR, obtain the grant funds, and complete invoices and reimbursement requests.

Project Performance Monitoring Plan

A Monitoring Plan will be prepared for the West Point Water Main & Tank Replacement Project to provide a framework for assessing and evaluating the project performance once it is implemented. The Monitoring Plan will identify the measures that will be used to monitor progress toward achieving the specific project goals of reducing/minimizing water losses within CCWD's water system, improving water quality and improving water supply reliability. The Monitoring Plan will also provide tools to monitor and measure project processes and will guide final project performance reporting that will fulfill grant agreement requirements. Attachment 6 of this Proposal consists of Performance Measures for the West Point Water Main & Tank Replacement Project. Project goals, desired outcomes, output indicators, outcome indicators, measurement tools and methods, and targets were developed for this Project. The identified parameters will provide a basis for the Monitoring Plan to be developed during Task 1. Ultimately, meter readings will be the key way in which performance is measured; determining the amount of unaccounted for water after this Project is implemented and comparing it to the amount of unaccounted water under current

conditions, will help determine if the measurable targets, including a reduction in water loss by 10%, are achieved.

Task 1 Deliverables:

- UMRWA – CCWD grant agreement
- Project start-up coordination meeting
- Monthly invoices
- Quarterly project status reports
- Project Performance Monitoring Plan
- Reimbursement requests

Task 2: Labor Compliance Program

CCWD does not currently have an approved Labor Compliance Program (LCP). Because CCWD will contract out the construction of the West Point Water Main & Tank Replacement Project, it will retain an approved Third Party Labor Compliance consultant (8 CCR §16426) to provide the LCP and reporting. This will be completed after June 1, 2011, but before a contractor is provided Notice to Proceed.

Note: the budget table and direction provided under the *Proposal Solicitation Package, Integrated Regional Water Management, Proposition 84 Implementation Grant Program, August 2010* provides for only labor under this budget category. Therefore, the costs associated with contracting for a LCP was included in budget category (g) – Other Costs, in Attachment 4.

Task 2 Deliverables:

- Labor Compliance Program
- Annual Report

Task 3: Reporting

No work under Task 3 has been or is expected to be completed prior to June 1, 2011 for Task 3. Following execution of the grant agreement, quarterly reports will be prepared assessing the progress and accomplishments of the West Point Water Main & Tank Replacement Project. The quarterly reports will likely include the following information:

- The time period covered by the request.
- Description of activities since the previous report.
- Status of the project relative to the progress schedule.
- An estimate of the percentage of work completed.
- Records of expenditures.
- Percentages of State and total funding expended to date.
- Key issues that need to be resolved.

A project completion report will also be prepared at the end of the project, anticipated to be July 2012. The report will include the following:

- An executive summary (two page maximum);
- Records of expenditures;
- A comparison of the projected benefits versus the measured benefits;
- A comparison of the original schedule and the actual schedule;
- A discussion of problems that occurred during construction and how the problems were solved;
- Submittal of any required deliverables that were not previously submitted; and
- A list of required deliverables submitted previously with dates of submittal and DWR acceptance.

CCWD will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

The existing water line to the Bummerville water tank was installed around 1960 and crosses through private property for which easements were unrecorded. CCWD has prepared legal descriptions for the easements and, after June 1, 2011, will negotiate with property owners to acquire the easements. The easements will then be recorded with the County. Land for the Bummerville tank site is was purchased by CCWD in 1995 and is already under their ownership.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Multiple planning documents have been prepared to demonstrate the viability of the West Point Water Main & Tank Replacement Project. These documents are listed below and discussed under Existing Data and Studies, above. At this time, the project is considered to be at the 60% design stage with final design to be completed by July 2011. The project is planned to continue through construction and be operational by July 2012.

Task 4: Assessment and Evaluation

A number of studies, reports and documents have been prepared pertaining to the aging West Point water distribution system.

- *West Point Water System Master Plan* (HDR, 2005)
- *West Point Preliminary Engineering Report* (CCWD, 2005)
- *Calaveras County Water District West Point Wilseyville/Bummerville System Improvements Final Feasibility Report* (HDR, 2004)
- *Calaveras County Local Hazard Mitigation Plan*, Figure 3.11
- *Initial Study and Mitigated Negative Declaration, West Point Service Area Water System Improvements* (K.S. Dunbar & Associates, Inc., 2007)
- *Plans for Construction, West Point Water System Distribution System Rehabilitation Improvement Plans* (CCWD, 2010)

These studies were all previously completed and are not included in the associated budget for this project. These documents are submitted as part of this Proposal's supporting documentation.

Task 4 Deliverables:

- None

Task 5: Final Design

CCWD completed the 60%design for this Project in 2009. Final (100%) design will be completed by July 2011 using the following standards:

- Calaveras County Water District, Design and Construction Standards
- American Water Works Association (AWWA) Standards
- California Waterworks Standards
- Seismic (Earthquake) Design Standards
- Fire Flow (Local Fire Department or ISO)

AWWA and ASTM Standard Materials will be used during project development. Additionally, AWWA & ASTM Construction Standards, AWA Standard Specifications, OSHA regulations and industry standard practice will be used as construction standards and health and safety standards.

Task 5 Deliverables:

- Final (100%) Design Plans and Specifications

Task 6: Environmental Documentation

Environmental documentation for the West Point Water Main & Tank Replacement Project has been completed; funding is not being requested for Task 6, nor are costs included in the budget. An Initial Study/Mitigated Negative Declaration (IS/MND) was completed by K.S. Dunbar & Associates in August 2007 for the *West Point Service Area Water System Improvements*. A Notice of Determination (NOD) was completed in October 2007, so this Project is deemed compliant with the California Environmental Quality Act (CEQA).

Task 6 Deliverables:

- None

Task 7: Permitting

As the water mains to be replaced are located in County roads and State highway rights-of-way, CCWD will obtain encroachment permits from both Calaveras County Public Works and the California Department of Transportation (Caltrans) prior to construction. CCWD has also determined the project is a linear underground project (LUP) that is not subject to the State General Stormwater NPDES Permit for construction as its land disturbance will be less than one acre.

Task 7 Deliverables:

- Encroachment Permits

Budget Category (d): Construction/Implementation

Task 8: Construction Contracting

All work under Task 8 will begin after June 1, 2011. As part of this task, CCWD will make a public advertisement for bids and conduct a pre-bid contractor's meeting. Once bids have been received, CCWD will hold a public bid opening and perform an evaluation of the bids, ultimately leading to award of the construction contract.

Prior to award, the construction contract must be approved by CCWD's Board of Directors. The selected contractor must submit bonds and insurance before District will finalize the contract. Estimated NOA/NTP dates are as follows:

- Notice of Award: 8/15/2011
- Notice to Proceed: 9/1/2011

Task 8 Deliverables:

- Notice to Bidders
- Pre-bid contractors meeting
- Summary of Solicitation/Bid Results
- Award of construction contract

Task 9: Construction

Construction of the West Point Water Main & Tank Replacement Project is anticipated to begin in September 2011. The existing asbestos concrete pipe (ACP) and galvanized steel pipe are outdated construction materials that are no longer available or used for municipal water systems, so these materials will be replaced by ductile iron pipe (DIP) and/or plastic (PVC) pipe that are recognized standards for water works.

Task 9 consists of the three subtasks required for project construction. Subtask 9.1 contains pre-construction work items, such as project mobilization and site preparation. Subtask 9.2 contains the actual project construction, while Subtask 9.3 consists of post-construction tasks such as final inspection, performance testing and demobilization.

Subtask 9.1: Mobilization and Site Preparation

Under this subtask, the equipment and materials mobilized to West Point will be staged at the CCWD's wastewater plant on Associated Office Road or at the water plant on Smitty Lane. Mobilization will begin following contractor receipt of a Notice to Proceed. As part of this subtask, the Contractor will be responsible for preparing a traffic control plan (conforming to California Department of Transportation and Public Works requirements) and for providing signs, barricades, cones, flaggers and other necessary traffic control devices.

Subtask 9.2: Project Construction

Construction of the West Point Water Main & Tank Replacement Project will occur in three stages – installation of the downtown transmission pipeline, the Bummerville Tank Replacement, and the Bummerville pipeline replacement. Each are described in more detail as follows.

Downtown Transmission Line Replacement: The transmission line replacement will include 3,900-feet of 12-inch water main along Winton Road and an additional 2,700 feet of water mains within the downtown area along Main Street and Pine Street. Construction will be by the open-cut trench method. The trench will be located on the road shoulder where space permits. Where the trench must be located within the paved section, the asphalt will be saw-cut, removed and replaced.

Bummerville Tank Replacement: A new 50,000-gallon steel water storage tank will replace the existing leaking 30,000 gallon redwood tank. The site will be cleared and grubbed to remove dead trees and brush and make room for the tank. A reinforced concrete ringwall and gravel pad will be provided for a foundation. The tank will be a welded steel type conforming to AWWA D100. A tank supplier will shop fabricate the tank in sections of steel plate (floor, walls and roof) and, then, ship the tank to the job site. The tank will be field erected by fitting and welding together all steel plate sections and adding the pipe connections, vents, hatches and other appurtenances. The tank is finished by painting the interior and exterior of the tank with an epoxy paint meeting the NSF-61 standard for safe contact with potable water.

Bummerville Pipeline Replacement: A new 8-inch PVC line (1,500 feet) will replace the existing galvanized steel line that has been in place since 1960. The pipeline crosses through easements on unimproved land on private property. Construction will be by open-cut trench using a backhoe. CCWD will repair existing improvement that are damaged or removed for construction such as fences, mailboxes, private roads, etc.

Subtask 9.3: Performance Testing and Demobilization

CCWD will observe pressure testing of all new water mains to confirm leakage rates are within AWWA standards. Prior to placing the tank into service, drinking water initially filling the tank will be tested for bacteria, volatile organic carbons (VOCs) and other laboratory parameters as required by the California Department of Public Health.

A third party soils/geotechnical firm will be retained to perform compaction tests on placement of trench backfill. Backfill placed within the road right-of-way will meet compaction requirements of Caltrans and Calaveras County Public Works department. Stormwater pollution prevention best management practices (BMPs) will cover disturbed soil on the project and prevent soil erosion and stormwater quality issues.

Task 9 Deliverables:

- Interim and final inspection reports
- Pressure testing report
- Water quality testing data
- Compaction test data

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

In order to comply with CEQA, CCWD will implement the mitigation measures outlined in the IS/MND. The recommended mitigation measures in the IS/MND will be included in the standard construction specifications, and will include, but are not limited to, the following:

- Proper equipment maintenance;
- Dust control measures;
- Washing trucks before leaving the site (if necessary);
- Covering haul trucks;
- Notification of appropriate personnel should cultural resources be uncovered during construction;
- Use of temporary erosion control measures;
- Storm drain inlet protection from sedimentation;
- Use of traffic control;

Further details regarding the mitigation measures to be implemented can be found in the *Initial Study and Mitigated Negative Declaration, West Point Service Area Water System Improvements* (2007).

Task 10 Deliverables:

- Mitigation implementation report

Budget Category (f): Construction Administration

Task 11: Construction Administration

During construction, a project engineer, construction manager, construction inspector and special inspector will be assigned to the project to complete construction administration tasks as necessary. Construction administration activities to be conducted under this task includes construction management services such as reviewing the contractor's schedule, managing and coordinating project inquiries and correspondence, maintaining project records, and inspecting the project during construction. Special inspection and testing for the project will be performed which includes compaction tests on all trench backfill and collection and lab tests of concrete cylinders. This testing will be performed by a third party firm.

Task 11 Deliverables:

- Communication/correspondence records
- Field logs
- Project records

Budget Category (g): Other Costs

Other expected costs for the West Point Water Main & Tank Replacement Project include the cost of implementing a Labor Compliance Program (LCP), County Public Works Inspection Fees, and Legal Counsel time for project-related consultation. Estimated costs for LCP implementation is ~1% of construction costs.

Budget Category (h): Construction/ Implementation Contingency

A 10% construction/implementation contingency on the construction cost has been included and is detailed in Attachment 6. The contingency equals $118,320. This percentage value was selected based on prior project experience.

Camanche Regional Water Treatment Plant

Lead Agency: East Bay Municipal Utility District

Total Cost: $720,020

Grant Request: $436,460

Funding Match: $283,560

Detailed Description

The Camanche Regional Water Treatment Plant Project, once fully implemented, will address the water needs of three separate water system purveyors: Amador Water Agency, Calaveras County Water District, and East Bay Municipal Utility District (specifically, the needs of the communities and recreation areas adjacent to EBMUD's Camanche Reservoir). The fully-implemented Project will consist of a 0.5 MGD membrane filtration water treatment plant (WTP) at the Camanche South Shore Recreation Area (CASS), a new raw water pipeline to provide raw water from the Mokelumne Aqueducts to the new treatment plant, and a new cross-Camanche Reservoir treated water pipeline from the CASS WTP to the Camanche North Shore Recreation Area (CANS) to provide treated water. The 0.5 MGD plant will be designed such that it can be expanded to treat up to 2.0 MGD without significant building/facility alteration (although updated environmental review may be needed should such expansion be contemplated). This additional capacity could be used to supply neighboring areas of Amador and Calaveras Counties, as needed and as based on a number of factors (water supply, water quality, etc.); and at that time, the water treatment plant will become a regional water treatment plant. Figure 10 shows the components of the Camanche Regional Water Treatment Plant components.

In the Camanche Reservoir area, AWA serves the residential development of Lake Camanche Village. This development consists of approximately 2,000 parcels and was designed to be served by five water supply wells. Presently, only three wells are in service because of water quality and quantity problems. Concerns exist that the remaining wells may also be subject to similar quality and quantity problems in the years ahead. Lake Camanche Village is a DAC as identified in the 2006 MAC IRWM Plan and in a recent income survey conducted by AWA for the area (see Attachment 12).

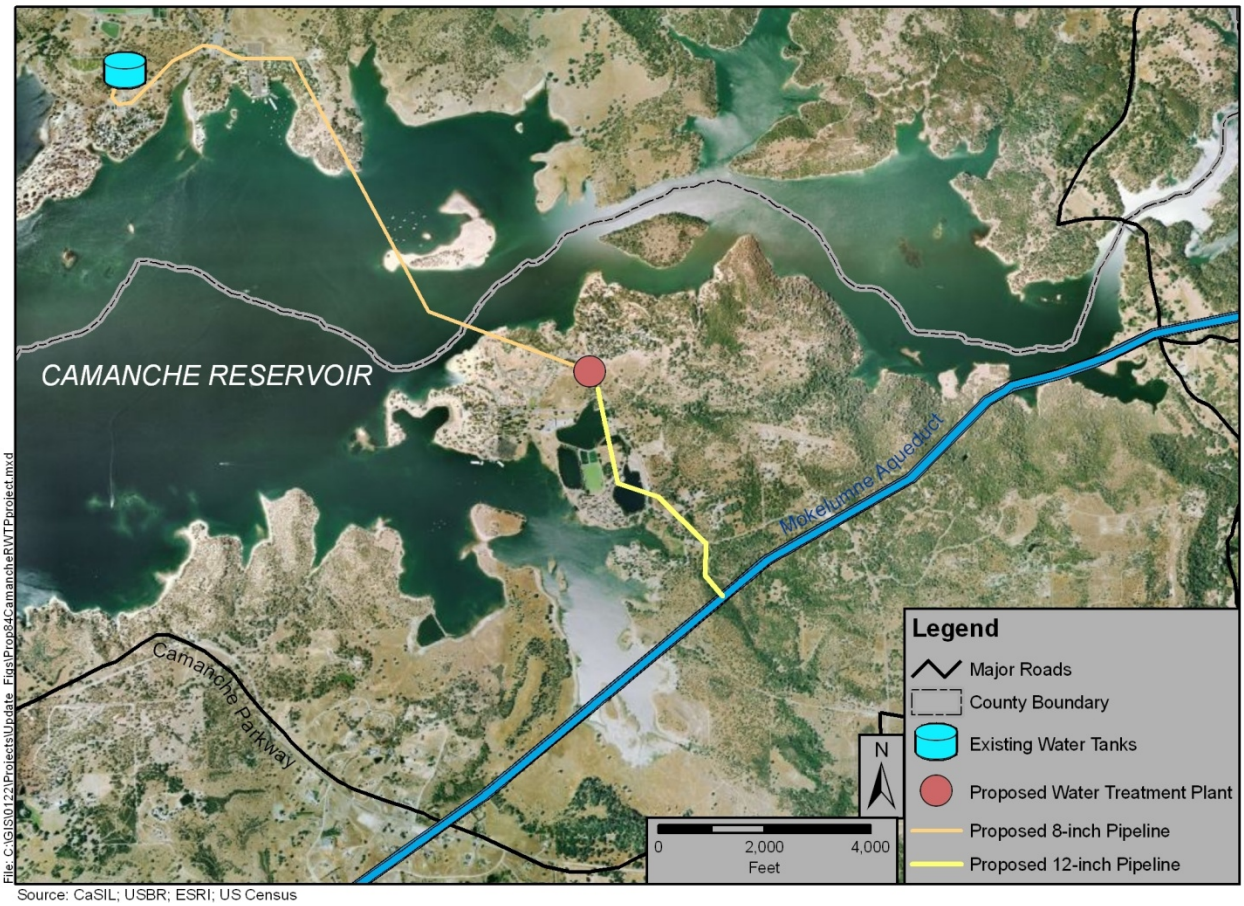

Figure 10: Camanche Regional Water Treatment Plant Components

Calaveras County Water District serves portions of Calaveras County along with other small water agencies; all own and operate their own water systems in the county. For example, the community of Wallace has formed a Community Service District (CSD); Wallace CSD relies on groundwater as their only source. This source is in danger of drying up as a result of over-pumping in neighboring San Joaquin County and the Wallace CSD wells also have iron and manganese water quality issues. (During drought periods, supplemental potable water supply must be trucked into the area to meet basic water needs.) Wallace CSD currently serve a small residential community of seventy lots, but a neighboring residential development of about the same size has approached Wallace CSD requesting to share their water system. Like the Wallace community, the adjacent community of Burson has water supply and quality concerns. CCWD is the local agency responsible for providing water to Burson. The Burson area consists of several hundred residents on individual wells, but like Wallace, many of those wells have been drying up at an alarming rate due to aquifer overdraft. In terms of water quality, a recent groundwater study conducted by CCWD identified water quality issues (arsenic, boron, iron and/or manganese) for some of the wells.

Since the mid-1960s, EBMUD has operated water treatment plants within the lands adjacent to Camanche Reservoir, serving the Camanche South Shore and North Shore Recreation Areas. The WTP at CASS is outdated and in need of upgrades to fully comply with the current Surface Water Treatment Rules for multi-barrier treatment and to eliminate taste and odor concerns currently occurring at the plant. In addition, since Camanche Reservoir is the plant's water source (and since the Reservoir serves as a recreational feature for the local community), there tends to be a high bacteria and turbidity loading in the water supply. The construction of the new pipeline, and eventually a new WTP, will allow a transition to another source of water via the Mokelumne Aqueducts which draw water from EBMUD's upstream Pardee Reservoir. As a result, treatment costs may be reduced and the quality of water produced at the plant improved.

In the late 1990s, representatives from EBMUD, AWA and CCWD (together with local community members) identified a shared need to address the water supply and quantity issues that each agency faced within the Camanche Reservoir area. A partnership with EBMUD, AWA and CCWD was formed, and the concept of developing a regional water treatment plant that would serve the combined localized needs of said agencies was documented. The Camanche Regional Water Treatment Plant Project is the result of that collaborative effort. Since that time, work on the regional treatment plant project has included preliminary engineering efforts as well as environmental review. The need for the project was seen as critical, hence its inclusion in the 2006 MAC IRWM Plan.

The Camanche Regional Water Treatment Plant Project provides multiple benefits to the area. First, and foremost, the project will ensure water supply reliability and improving potable water quality. The project will also provide ancillary benefits to the Camanche Reservoir area. EBMUD operates a wastewater treatment plant in the vicinity of the existing water treatment plant – the Camanche Area South Shore (CASS) Wastewater Treatment Plant. The CASS Wastewater Treatment Plant has capacity limitations, primarily as a result of the plant's series of facultive ponds with final effluent disposal via spray fields. These ponds are often near capacity during the winter months when rainfall prevents spraying. The existing CASS WTP discharges large volumes of backwash water to the CASS Wastewater Plant, and due to plant treatment capacity, there are concerns that discharges may approach regulatory limits for certain pollutants during wet weather conditions (in violation of NPDES permit limits). The proposed regional water treatment plant would largely eliminate this influent source and hence resolve the capacity limitations of the wastewater system.

A phased approach is planned for implementation of the Camanche Regional Water Treatment Plant Project's design and construction. Phase 1, for which grant funding is sought, is the construction of the Mokelumne Aqueduct Supply to CSS WTP pipeline. This pipeline will be approximately six miles long, and will be constructed of 12-inch diameter HDPE piping. The pipeline will initially connect two of the three EBMUD Mokelumne Aqueducts to the existing water treatment plant at CASS in order to provide an alternative higher-quality raw water source to the existing plant (and correspondingly better treated water to residents). Long-term, after subsequent phases of the treatment plant have been

constructed, the Mokelumne Aqueduct Supply to CSS WTP pipeline will connect the aqueducts to the new regional water treatment plant. Environmental review of the proposed pipeline alignment has been completed (as part of the environmental review conducted on the project as a whole) and design efforts for the pipeline are well into the detailed design stage; EBMUD considers that the design status of the Phase 1 effort to be at 90% completion, with overall project design currently at 20% completion.

Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions (e.g. invoice approval, schedule review), project status meetings, preparation of quarterly reports, spot field inspections and normal communications between the Contractor and Engineer. Budget Category (a) (Direct Project Administration) includes Task 1: Administration, Task 2: Labor Compliance Program, and Task 3: Reporting, which are described in more detail as follows.

Task 1: Administration

Project administration includes the following tasks:

- General grant administration and reporting activities
- Coordination with UMRWA (the RWMG)
- Preparation and implementation of a Project Performance Monitoring Plan
- Administrative office work

Coordination

EBMUD is a member of UMRWA and will, in partnership with AWA and CCWD, guide the financing, ownership, development, construction, and operation of the Camanche Regional Water Treatment Plant Project. Grant funding would be used to fund construction of the first part of the Camanche Regional Water Treatment Plant Project – the Mokelumne Aqueduct Supply to CSS WTP pipeline. Grant funds awarded for this Phase 1 project will be directed by UMRWA to EBMUD (as the project sponsor). An agreement between UMRWA and EBMUD will be executed following grant award.

Work items to be included under this task include the UMRWA-EBMUD grant agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications with UMRWA, and Board communications), preparation and implementation of a Project Performance Monitoring Plan (discussed below), documents management, schedule review, and reporting (Quarterly Reports and a Project Completion Report; also discussed below).

Project Performance Monitoring Plan

A Monitoring Plan will be prepared for the Camanche Regional Water Treatment Plant Phase 1 Project to provide a framework for assessing and evaluating the project performance once it is implemented. The Monitoring Plan will identify the measures that will be used to monitor progress toward achieving the specific project goals of constructing and operating the new pipeline and by reduction violations at the existing Camanche WTP. The Monitoring Plan will also provide tools to monitor and measure project processes and will guide final project performance reporting that will fulfill grant agreement requirements. Attachment 6 of this Proposal consists of Performance Measures for the Camanche Regional Water Treatment Plant Phase 1 Project. Project goals, desired outcomes, output indicators, outcome indicators, measurement tools and methods, and targets were developed for this Project. The identified parameters will provide a basis for the Monitoring Plan to be developed during Task 1.

Task 1 Deliverables:

- Completed UMRWA – EBMUD grant agreement
- Project start-up coordination meeting
- Monthly invoices
- Quarterly project status reports
- Reimbursement requests
- Project Performance Monitoring Plan

Task 2: Labor Compliance Program

All work to be completed as part of the Camanche Regional Water Treatment Plant Phase 1 Project will be conducted by EBMUD employees. Per Section 2.9.2 of the California Department of Industrial Relations, Division of Labor Standards Enforcement *Public Works Manual* (May 2009), "Labor Code §1771 expressly provides that the prevailing wage requirement is 'not applicable to work carried out by a public agency with its own forces.'" Therefore, for this project, a Labor Compliance Program is not required.

Task 2 Deliverables:

- None

Task 3: Reporting

Following execution of the grant agreement (anticipated to be on June 1, 2011), Quarterly Reports will be prepared assessing the progress and accomplishments of the Camanche Regional Water Treatment Plant Phase 1 Project. A Project Completion Report will also be prepared at the end of the project, anticipated to be May 2013. EBMUD will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

No land purchases or easements will be required for implementation of the Camanche Regional Water Treatment Plant Phase 1 Project. All work will be conducted on EBMUD-owned properties.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Planning documents have and will be prepared to demonstrate the viability of the project and are listed below. At this time the project is considered to be at the 10 percent design stage as described below. The project is planned to continue through construction and to be operational by November of 2009.

Task 4: Assessment and Evaluation

The *Camanche South and North Shore Water Treatment Plants Evaluation* was completed in May of 2003. This document compared alternative treatment plant technologies and pipeline alignments for treated water delivery, and provided engineering-level cost estimates. This document also provided the 10% design for the Camanche Regional Water Treatment Plant project components. Subsequent pipeline design was conducted on the proposed Phase 1 project. 30% design plans were completed in July of 2001, and 90% (pre-final) design plans were completed in May of 2003.

Following grant execution, the pipeline alignment will be surveyed to provide up-to-date mapping for the 100% design preparation (Task 5). The site survey will begin following grant agreement execution, and is anticipated to take three months to complete.

Task 4 Deliverables:

- Site survey report

Task 5: Final Design

Final design for this project includes preparation of the 100% (final) design drawings as well as project specifications. This work will commence following completion of the pipeline alignment survey (described in Task 4, above), and is anticipated to be completed by January of 2012.

Based on the 90% project design, the Mokelumne Aqueduct Supply to CSS WTP pipeline will be construction of 6,000 linear feet of 12-inch diameter high-density polyethylene (HDPE) plastic. The pipeline will be placed using a cut-and-cover installation method in a trench five feet deep, atop a bed of Control Density fill or native backfill. Soils atop the pipeline will be reseeded following construction in order to 'blend' with the local habitat.

Task 5 Deliverables:

- Final Plans and specifications

Task 6: Environmental Documentation

The draft *Camanche Water Treatment Plant Replacement Project Mitigated Negative Declaration* (MND) was completed in July 2001 and adopted by the EBMUD Board of Directors in September 2001. The California State Clearinghouse Number for the MND is 20011072084. This document evaluated a 0.5 MGD ultrafiltration plant at CASS plus the Mokelumne Aqueduct Supply to CSS WTP pipeline and the proposed cross-Camanche distribution pipeline.

In conjunction with the pipeline alignment survey that will be conducted prior to final design (described in Task 4, above), the pipeline alignment will be surveyed by qualified biologists to ensure there have been no substantial changes in habitat since the 2001 MND. Following completion of the surveys, an update (addendum) to the September 2001 MND and related Mitigation Monitoring and Reporting Plan (MMRP) will be prepared.

Task 6 Deliverables:

- CEQA Addendum to September 2001 Mitigated Negative Declaration

Task 7: Permitting

No permits have been obtained for the project to date. Following grant agreement execution, all permits necessary for construction and operation will be obtained. These permits include the following:

- Stormwater National Pollutant Discharge Elimination System (NPDES) permit will be obtained in support of construction. A Notice of Intent will be filed to obtain coverage under the State's General Stormwater NPDES permit for construction, and appropriate documentation (Stormwater Pollution Prevention Plan, annual reporting) will be prepared in support of the permit. Coverage under the State's General Construction Stormwater Permit will allow for non-point discharges of stormwater runoff and authorized discharges generated from within the pipeline construction site.
- Air permit from the Amador County Air Pollution Control District (if required). This permit would be for PM10 emissions from generators and/or diesel equipment.

Depending on the final pipeline alignment, a Streambed Alternation Agreement may be required and will be obtained prior to project construction. Additionally, the final project design will require Federal Energy Regulatory Commission (FERC) review prior to construction. It is assumed that no Amador County encroachment permits will be required as the proposed project is sited entirely on EBMUD-owned property.

Task 7 Deliverables:

- Documents required for compliance with the State General Stormwater Permit for construction (Notice of Intent, Notice of Termination, Stormwater Pollution Prevention Plan, annual reports)
- Air permit

Budget Category (d): Construction/Implementation

Task 8: Construction Contracting

All construction contracting required for the Camanche Regional Water Treatment Plant Phase 1 Project will be for required materials; all labor for the project will be supplied by EBMUD employees. Anticipated contracting for materials delivery includes the following:

- Advertisement to Bid for 6,000 linear feet of 12-inch HDPE pipeline
- Advertisement to Bid for control density fill for 6,000 linear feet of trenching
- Advertisement to Bid for miscellaneous equipment rental for pipeline construction

The Notice to Proceed for the aforementioned bids is expected to occur concurrently in March of 2012.

Task 8 Deliverables:

- Advertisement for bids
- Pre-bid contractors meeting
- Evaluation of bids
- Award of contract

Task 9: Construction

As previously noted, the proposed Mokelumne Aqueduct connection pipeline will be constructed of 12-inch diameter HDPE plastic. This material was selected based on prior experience relative to the material's durability, low maintenance, ease of repair and minimal leakage. The pipeline materials and construction will meet American Water Works Association (AWWA) standards and EBMUD construction standards. AWWA standards to be met include the following:

- ANSI/AWWA C906-07 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) Through 63 In. (1,600 mm), for Water Distribution and Transmission
- ASTM F 714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
- ASTM F905 Standard Practice for Qualification of Polyethylene Saddle-Fused Joints
- ASTM F 1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
- ASTM F 1290 Standard Practice for Electrofusion Joining Polyolefin Pipe and Fittings
- ASTM F 1412 Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
- ASTM F1417 Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
- ASTM F 2164 Standard Practice for Field Leak Detection of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure
- ASTM F2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock

- ASTM D 2239 Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
- ASTM D 2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
- ASTM F 2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
- ASTM D 2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
- ASTM D 2737 Standard Specification for Polyethylene (PE) Plastic Tubing
- ASTM D 2774 Standard Practice for Underground Installation of Thermoplastic Pressure Piping
- ASTM D 3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
- ASTM D 3350-08 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

Construction tasks can generally be subdivided into three tasks: mobilization and site preparation, pipeline construction, and performance testing and demobilization. These subtasks are described in more detail below.

Subtask 9.1: Mobilization and Site Preparation

Minimal site mobilization will be required for the proposed project as an EBMUD crew is already assigned to the work area and is local. Mobilization tasks are anticipated to include preparation of construction staging areas for materials (pipeline and trenching) and site preparation (i.e. clearing and grubbing). Additionally, stormwater best management measures and materials will be installed, as appropriate, as part of the site and staging area preparation.

Subtask 9.2: Project Construction

Pipeline construction using a cut-and-fill construction methodology involves trench excavation, bedding material placement, pipeline installation, and backfill and compaction activities. Additionally, the pipeline will be connected to the Mokelumne Aqueducts as part of the project construction. Final As-Built drawings will be prepared following pipeline installation.

Subtask 9.3: Performance Testing and Demobilization

Following pipeline installation and prior to demobilization activities (including any site restoration that may be required as part of the permitting process and mitigation requirements), the pipeline will undergo a pressure/leak detection system analysis and flow rate measurements. Additionally, all pipeline components will be tested (air and blow-off valves).

Following pipeline performance testing, the pipeline alignment and staging areas will be restored, the sites re-vegetated after final compaction, and a final site survey conducted.

Task 9 Deliverables:

- As-Built drawings
- Pressure/leak detection system analysis report
- Final site survey

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

Based on the July 2001 Initial Study (prepared in support of the September 2001 MND), no mitigations are anticipated beyond standard construction site restoration practices and those mitigation measures identified in the 2001 MND. The CEQA addendum to be prepared prior to project construction is not anticipated to materially change from the original determination as project conditions have not changed significantly since the original work was conducted in 2001. Therefore, all activities anticipated to occur under this task are for compliance with permit requirements, such as the use of BMPs as part of the Stormwater Pollution Prevention Plan (SWPPP) implementation.

Task10 Deliverables:

- None

Budget Category (f): Construction Administration

Task 11: Construction Administration

Construction Administration includes construction management services and contracts administration in support of project construction. Construction management for this project will include the following work items:

- Preparation of materials contracts
- Review and approval of materials contracts
- Periodic site inspections
- Maintain detailed project records
- Inspect completed construction

Because the work is being conducted by EBMUD staff, construction administration is anticipated to be minimal.

Task 11 Deliverables:

- Site inspection reports
- Project records
- Correspondence
- Field logs

Budget Category (g): Other Costs

Other costs associated with the Camanche Regional Water Treatment Plant Phase 1 Project are legal costs associated with the CEQA Addendum to the 2001 MND, project permits, and project-related agreements. This includes approximately one week of work time for legal

review of documents, communication with legal staff, and legal input to comments on the draft addendum and on project-related agreements.

Budget Category (h): Construction/ Implementation Contingency

Because the proposed project is being conducted by EBMUD staff on EBMUD property, there is a high degree of certainty associated with the proposed budget. As a result, no construction/implementation contingency is proposed for the project.